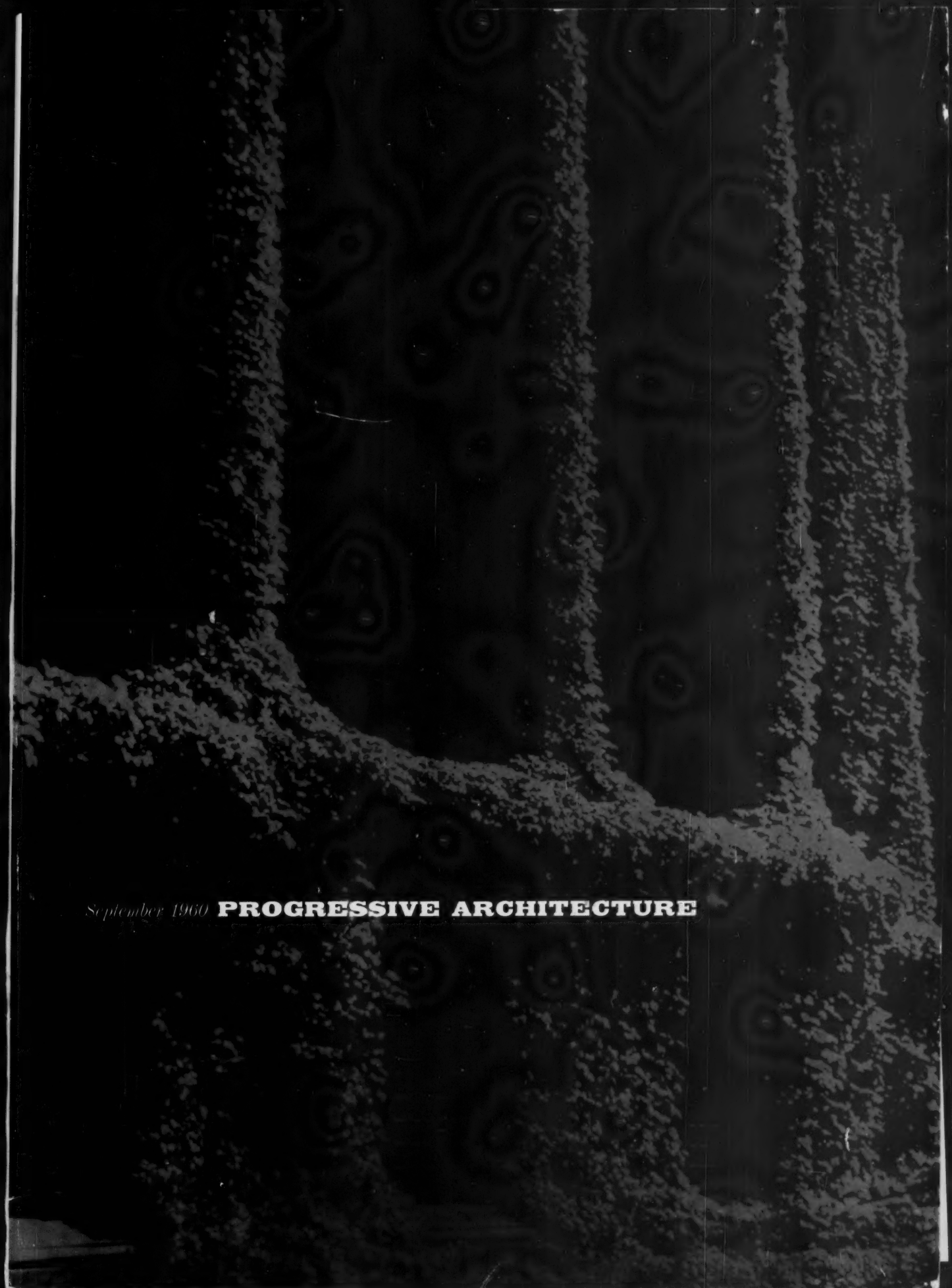


*September 1960* **PROGRESSIVE ARCHITECTURE**

Western Electric Distributing House
Arlington, Virginia

# *Vina-Lux*® floors serve **Western Electric**

More and more architects across the nation are specifying Vina-Lux vinyl asbestos tile because . . .

- ▲ It's an honest product skillfully made by men dedicated to quality.
- ▲ It's a vinyl flooring reinforced with asbestos fiber — stable, durable and attractive.
- ▲ It's available throughout the United States through responsible outlets.
- ▲ It's made by a company earnestly trying to serve the architect with constantly improved products that solve architectural floor problems.
- ▲ Finally, Vina-Lux performance is guaranteed by its maker.

*For complete specification data and color chart, consult Sweet's Architectural File or write us.*

AZROCK FLOOR PRODUCTS DIVISION

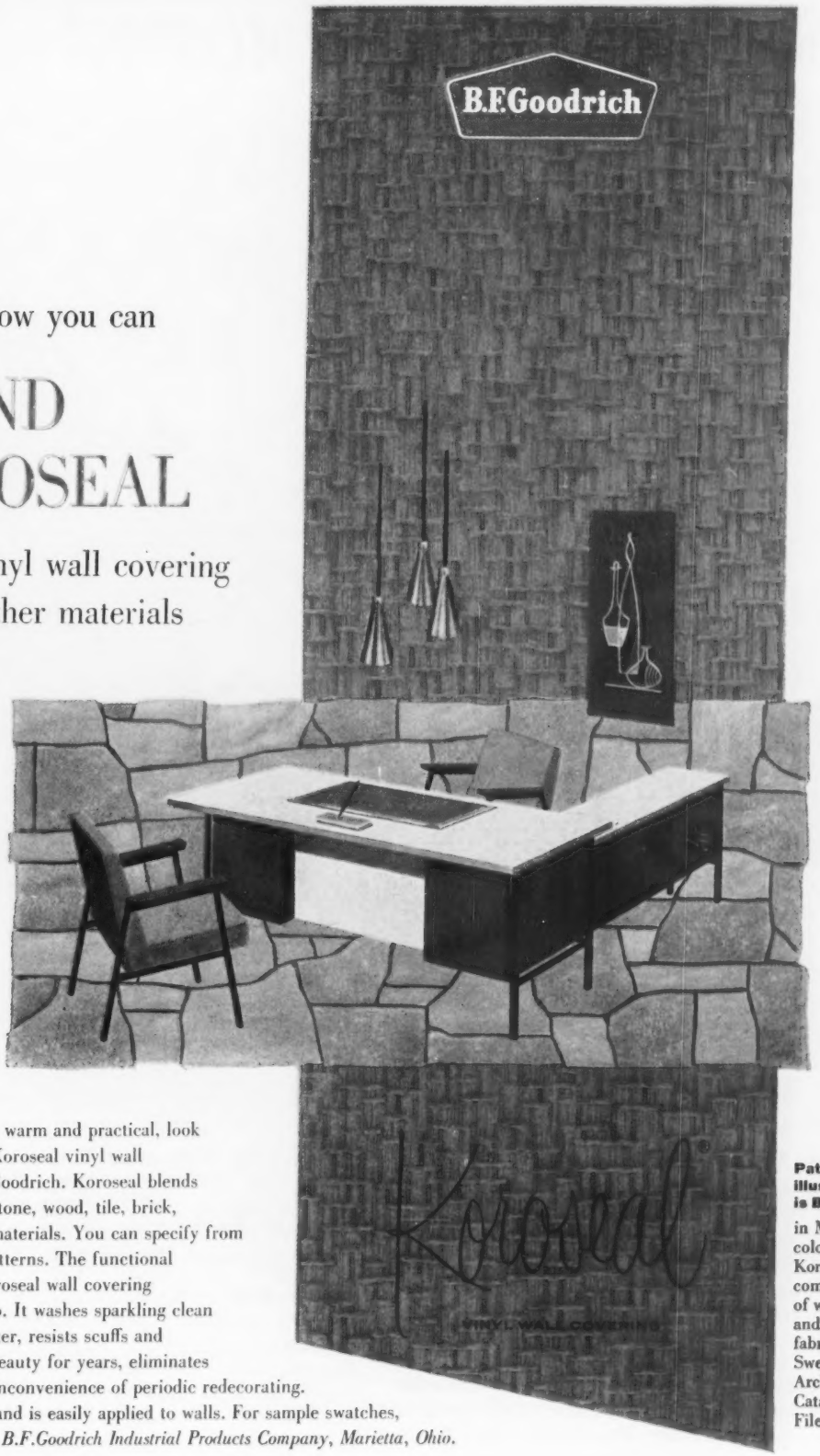
*Specialists in the manufacture of vinyl asbestos tile and asphalt tile flooring*

UVALDE ROCK ASPHALT CO. • 525A FROST BANK BLDG. • SAN ANTONIO, TEXAS

Look how you can

# BLEND KOROSEAL

vinyl wall covering
with other materials




For walls that are warm and practical, look to fabric-backed Koroseal vinyl wall covering by B.F.Goodrich. Koroseal blends beautifully with stone, wood, tile, brick, metal and other materials. You can specify from 128 colors and patterns. The functional advantages of Koroseal wall covering are important, too. It washes sparkling clean with soap and water, resists scuffs and stains, keeps its beauty for years, eliminates the expense and inconvenience of periodic redecorating. It's fire resistant and is easily applied to walls. For sample swatches, write Dept. PA-9, *B.F.Goodrich Industrial Products Company, Marietta, Ohio.*

**Pattern illustrated is BALI** in Musk Rose color. See Koroseal's complete line of wall covering and upholstery fabrics in Sweet's Architectural Catalog File No. 13k/Go.

**B.F.Goodrich** ***Koroseal vinyl coated fabrics***

# Electrification . . . Reinforcement . . . Form

**Complete Underfloor Electrification**—Place E/R (Electrically Ready) Cofar units between standard Cofar sections. These large cells carry power, phone, signal circuits direct to desks and machines *anywhere* on the floor. Use any desired spacing of one-, two- or three-cell units to get complete electrification where it is needed, when it is needed.

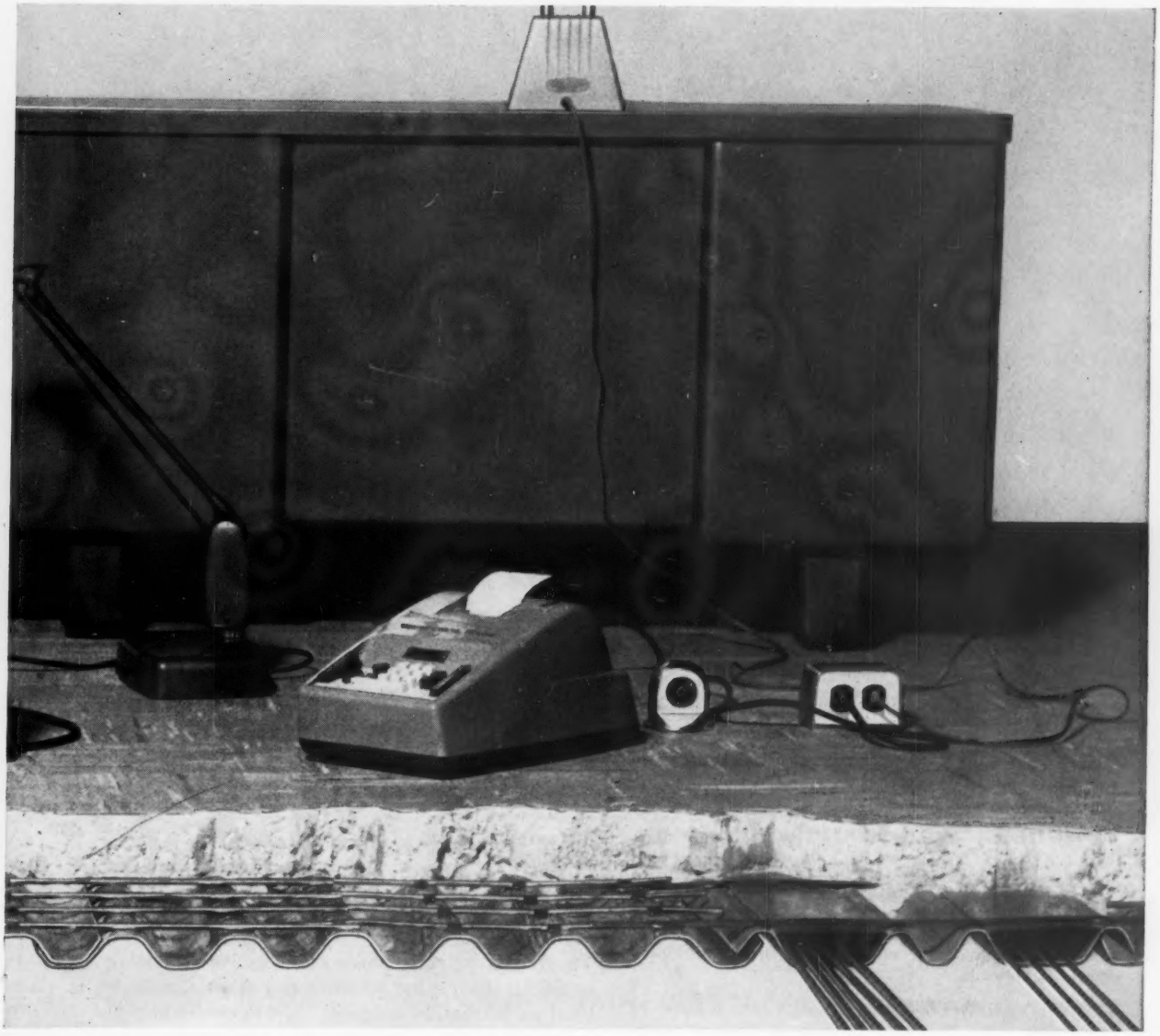
**Design Flexibility**—By specifying E/R Cofar floors, you can economically design for spans up to 14′4″, loads up to 250 psf. Provide for present and future wiring requirements economically.

**Reinforced Concrete System**—E/R Cofar system is reinforced concrete . . . strong, permanent, fire resistant. High-strength, deep-corrugated steel units, with "T" wires welded across corrugations provide positive and temperature reinforcement. Units are also the form for wet concrete; serve as working platform. Up to 4-hour UL fire ratings.

**Economical**—Construction is fast. No wood forms. No bottom rebars. Work schedules are maintained. Long spans mean fewer beams; save on structural framing and beam fireproofing. Optional preset inserts on E/R units speed installation of service outlets—no concrete drilling. Best insurance rates available.

*You get fast, dependable delivery of Cofar and E/R Cofar and helpful field service. Over 100 Granco distributors throughout the U. S.*

# ...Get all three with E/R COFAR®



# E/R COFAR®

FROM THE GRANCO® FAMILY

Corruform®
Tufcor®
Roof Deck
Utility Deck
Vin-Cor
Structur-Acoustic
Stay-In-Place Bridge Forms
Guard Rail
Pavement Joints

Galvanized Steel

***MAIL FOR E/R COFAR MANUAL***

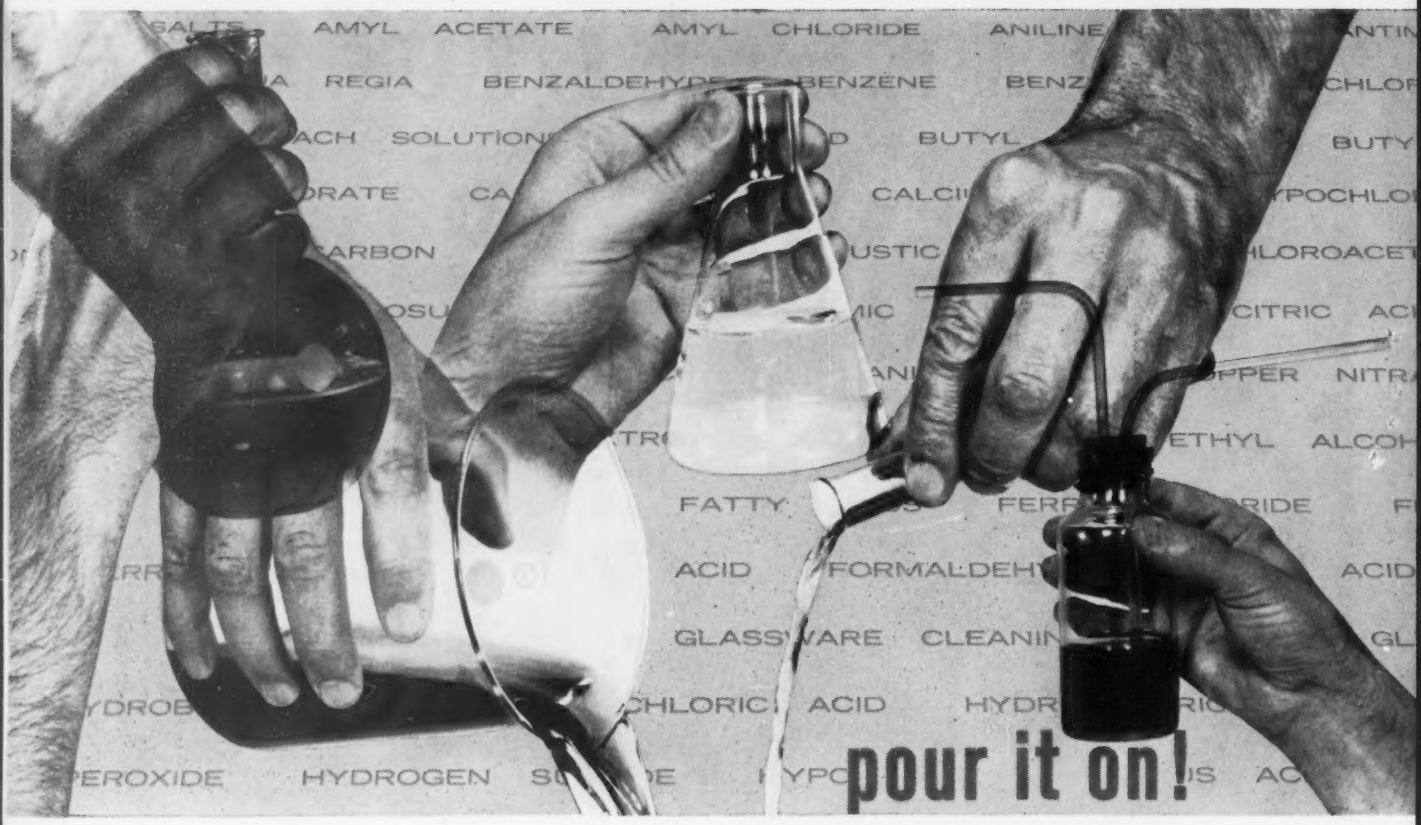
**GRANCO STEEL PRODUCTS CO.**
**6506 N. Broadway, St. Louis 15, Missouri**

*A Subsidiary of* GRANITE CITY STEEL COMPANY

Just sign coupon . . . clip to your company letterhead . . . mail today. Attention Department R-609.

NAME _____

OUR CATALOGS ARE FILED IN SWEET'S




# Durcon®

## Laboratory Sinks

**completely resist most every inorganic and organic chemical or solvent used in science and research labs**

Tough Durcon sinks shrug off corrosive attacks of acids, alkalies, salts, solvents and other chemicals used as laboratory reagents . . . do not discolor or stain under the severest kind of service. For most applications, rugged, versatile Durcon 2 is recommended. Special composition Durcon 5 gives excellent resistance to massive amounts of concentrated sulfuric acid and glassware cleaning solution. Where large quantities of hydrofluoric or fluosilicic acids are encountered, Durcon 3 or Durcon 5 is recommended.

All Durcon sinks stand up under hard service without cracking or spalling. Thermal shock has no effect. For further information and prices, contact your Laboratory Furniture Manufacturer or write for new Bulletin PF/5a.

**DESIGN**—Clean, modern, practical with coved corners and dished bottoms makes them highly functional and attractive plus blending with all laboratory furniture.

**CORROSION RESISTANCE**—Made of modified epoxy resin, Durcon exhibits almost complete resistance to wide range of acids, alkalies, salts, solvents, and other organic chemicals.

**WIDE SELECTION**—Table sinks, end sinks, drainboard-sink units, double compartment sinks, cylindrical sinks, cup sinks.

**LIGHT WEIGHT**—Approximately 40% as heavy as competitive sinks. Normally thickness of stone or porcelain sinks is at least 1" while Durcon is but ½" thick.

**LOWER COST**—Besides lower initial cost, there are savings on freight and installation.

**EASIER INSTALLATION**—One man can easily install a Durcon sink either under table top or free standing. No hydraulic jack required as for ceramic or stone sinks. Less weight means less complicated supports.

**HEAT RESISTANCE**—Unlike other plastic laboratory sinks, Durcon will not warp nor soften when exposed to boiling solutions. Neither will Durcon support combustion.

**SHOCK RESISTANCE**—No failure due to thermal shock need be feared. Wide range of tests also assure many years' service without cracking, spalling or other forms of mechanical or fatigue failure.

**MOISTURE ABSORPTION**—Durcon sinks are impermeable to liquids. The percentage of moisture absorption over an extended period is a maximum of 0.06%.

**THE DURIRON COMPANY, INC.**
**DAYTON, OHIO**

DURCO
CORROSION RESISTING ALLOYS & EQUIPMENT

# THIS MONTH IN P/A

*The World's Largest Architectural Circulation.*


49 NEWS REPORT

Rudolph designs parking garage for New Haven . . . Tallest hotel yet for New York . . . Australian country-club community by Gruen . . . Winners of Mastic Tile competition . . . New library for Coventry . . . Two top educational projects in Michigan . . . PERSONALITIES . . . WASHINGTON/FINANCIAL NEWS . . . PRODUCTS: A new departure in science room furniture . . . MANUFACTURERS' DATA.

121 CONTENTS

122 EDITORIAL FEATURES

Form and style in planning the college campus are the subject matter of an article by Richard P. Dober of Sasaki, Walker & Associates, which leads off a series of presentations of recent college buildings . . . Harvard's Eighth House is discussed in detail, as is the Rhode Island School of Design's hill-climbing Living Center and Wesleyan's Foss Hill Dormitories . . . Two college library facilities and two additional examples of dormitory planning complete this feature . . . Congressman John V. Lindsay discusses the case for a cabinet-level Department of Urban Affairs . . . SELECTED DETAILS are chosen from college buildings.

168 TECHNICAL ARTICLES

Composite Construction in both precast and cast-in-place concrete design is discussed by Engineer Arthur R. Anderson . . . Robert Zion describes the problems of Roof-Top Planting . . . Acoustics and Reverberation are analyzed by David P. Costa . . . SPECIFICATIONS CLINIC and MECHANICAL ENGINEERING CRITIQUE have lively topics.

232 JOBS AND MEN

240 DIRECTORY OF PRODUCTS ADVERTISERS



PROGRESSIVE ARCHITECTURE published monthly by REINHOLD PUBLISHING CORPORATION, 430 Park Avenue, New York 22, N. Y. Ralph W. Reinhold, Chairman of the Board; Philip H. Hubbard, President and Treasurer; Fred P. Peters, Vice-President and Secretary; H. Burton Lowe, Merald F. Lue, D. Bradford Wilkin, William P. Winsor, Vice-Presidents; Kathleen Starke, Assistant Treasurer; Executive and Editorial offices: 430 Park Avenue, New York 22, N. Y. Subscriptions payable in advance. Subscription prices to those who, by title, are *architects, engineers, specifications writers, designers* or *draftsmen*, and to government departments, trade associations, members of the armed forces, college libraries, college students, publishers, advertisers, prospective advertisers and their employes—$5.00 for one year, $8.00 for two years, $10.00 for three years. Above prices are applicable in U. S., U. S. Possessions, and Canada. All *practicing architects* and *engineers* outside U. S., U. S. Possessions and Canada—$1000 for one year, $16.00 for two years, $20.00 for three years—ALL OTHERS: $20.00 a year. Single copy—$1.00; special issues—$2.00 per copy. Printed by Publishers Printing Company, New York, N. Y.

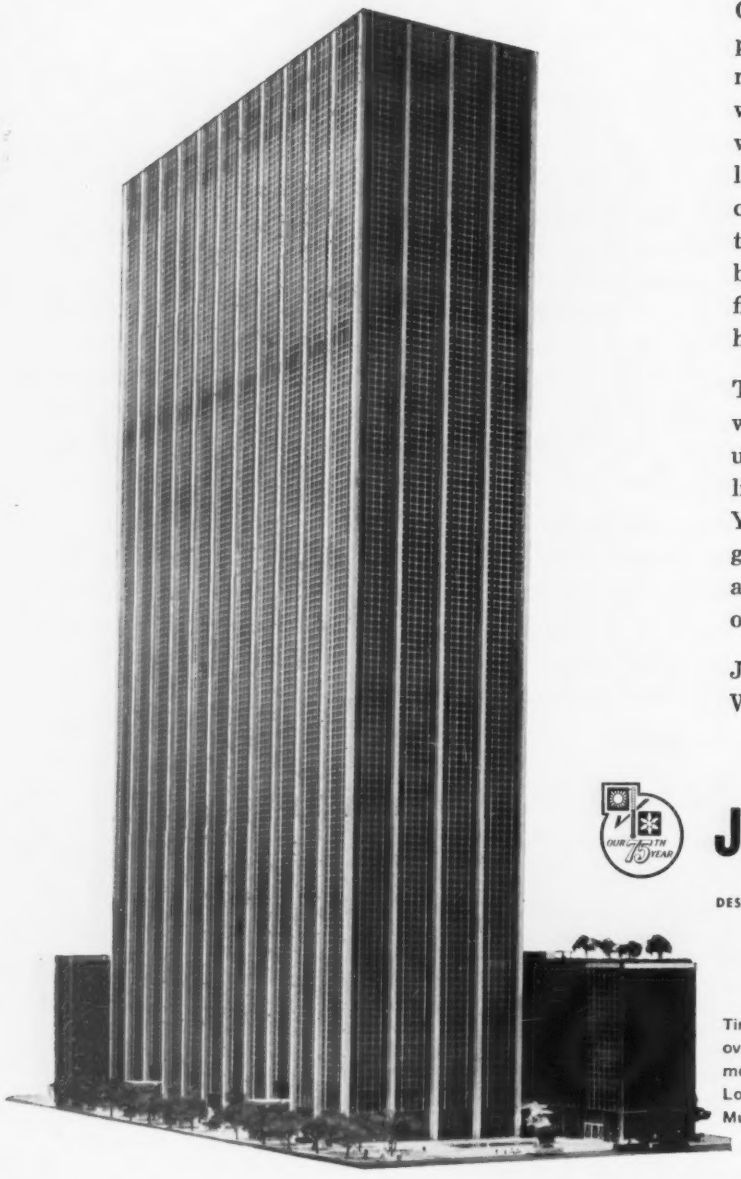

Copyright 1960, Reinhold Publishing Corporation. Trade Mark Reg. All rights reserved.


Indexed in Art Index, Architectural Index. Second class postage paid at New York, N. Y. Volume XLI, No. 9

*New TIME & LIFE BUILDING*

*Accents Comfort and Economy with*

# JOHNSON PNEUMATIC CONTROL



The new Time & Life Building in New York's Rockefeller Center contains over 1½ million square feet of comfortably air-conditioned office space. To provide an ideal working climate throughout this 48-story structure, a specially planned Johnson Pneumatic Temperature Control System directs the operation of the 60 central fan air conditioning and ventilating systems and the 16 secondary water systems serving the perimeter induction units.

On the 20 floors occupied by Time Inc., publishing deadlines require many departments to work at night and on weekends, while others have a conventional workweek. To meet this unusual schedule with large savings in operating costs, special control provisions allow air conditioning to be on or off at any time on a selective basis in each of four zones per floor. These floors, of course, also are equipped with a high degree of *individual room* control.

This system, like every Johnson System, was planned and installed to provide an unmatched combination of efficiency and lifetime economy of operation and upkeep. Your nearby Johnson representative will gladly explain how these benefits can be applied to your clients' buildings, small or large.

Johnson Service Company, Milwaukee 1, Wisconsin. 105 Direct Branch Offices.

OUR 75TH YEAR

**JOHNSON CONTROL**

PNEUMATIC SYSTEMS

DESIGN • MANUFACTURE • INSTALLATION • SINCE 1885

Time & Life Building, New York. Harrison & Abramovitz & Harris, architects; Syska & Hennessy, Inc., mechanical engineers; George A. Fuller Co. and John Lowry, Inc., general contractors; Almirall-Wolff & Munier, mechanical contractors; all of New York.

# WHAT VARIATIONS FROM TESTED FLOOR-CEILING ASSEMBLIES ARE PERMISSIBLE?

Armstrong Acoustical Fire Guard—the first time-design-rated acoustical ceiling tile—will meet the nation's strictest building codes. And it will do it in a wide variety of floor-ceiling assemblies.

*most popular constructions have been tested*

Since the elements of a floor-ceiling assembly (such as the tile, the slab, the air space in the plenum, and the structural steel supporting the slab) can be varied and these variations can be combined in an infinite number of assemblies, it is virtually impossible to test and report every one. The more popular assemblies have been tested. Variations from tested assemblies which maintain or improve the fire-retardant rating have been accepted by local code officials, building inspectors, and rating agencies.

*slab construction may vary*

A thicker slab logically improves fire retardance of the assembly. Equivalent thicknesses of poured or precast lightweight concrete or gypsum may be substituted for structural grade concrete. The National Board of Fire Underwriters—sponsoring agency for U. L.—has listings in its fire-resistance rating booklet that state alternate fills of equivalent thickness are permissible in rated assemblies.

*modification in structural steel*

Acoustical Fire Guard forms a tight fire-retardant membrane which blocks passage of dangerous heat and flame. Structural steel, regardless of its size and shape, will not fail so long as it does not become overheated.

*depth of plenum chamber*

In the official U. L. test assemblies, the metal members supporting the tile were in direct contact with the structural member—the most critical construction possible. Suspension of the ceiling to create a deeper plenum would not impair the fire retardance of the assembly.

Before you specify your next ceiling, consider Armstrong Acoustical Fire Guard. It will help you give your client a safer building—often at a savings in cost. For more information, contact your Armstrong acoustical contractor or your nearest Armstrong district office. Or write to Armstrong Cork Company, 4209 Watson St., Lancaster, Pa.

# Ultimate economy of terrazzo can save enough to pay entire construction cost of a school building

## *Initial cost only 1 to 4% of total cost of floor finishes*

A 1959 study[1] shows that the ultimate cost of Terrazzo is $20 less per square foot than asphalt tile, or *more than enough to pay for the entire school construction cost.*

Lower maintenance costs are responsible. The initial cost of composition tile and Terrazzo floor finishes represents from 1 to 4% of ultimate cost.

Over an anticipated life of 50 years, a reduction of *5 to 10* cents in maintenance costs per square foot per year *will refund the entire cost of a floor finish.* Vinyl tile, second to Terrazzo in maintenance economy, costs *21¢ more* per square foot per school year (35 weeks). This last figure is substantiated in a survey[2] which compares three floor finishes in a number of schools. Terrazzo's average weekly maintenance cost per square foot was $.025; asphalt tile's—$.04; vinyl tile's—$.031.

Maintenance cost is one of six factors considered in the complete study. The others: (1) value of money (2) price increases (3) initial cost (4) replacement (5) speed of construction. These costs and their incidence over an anticipated life of 50 years were determined and converted to present value[3] for ready comparison. The study is summarized in the chart shown below.

**PRESENT VALUE OF ULTIMATE COSTS**

50 year period
(per square foot of floor area)

| | TERRAZZO | ASPHALT TILE | VINYL TILE |
|---|---|---|---|
| Initial cost | $ 1.45 | $ .50 | $ .75 |
| Maintenance cost | 35.30 | 56.48 | 43.77 |
| Replacement costs | .05 | .08 | .14 |
| Less speed erection credit | 0.00 | .20 | .20 |
| Total | $36.80 | $56.86 | $44.46 |
| Relative ultimate cost | 100 | 154 | 121 |

For a free copy of the complete study of ultimate cost write: The National Terrazzo and Mosaic Association, N.A.D.A. Building, 2000 K Street, N.W., Washington 5, D. C.

1. The Ultimate Cost Of Three Floor Finishes In Tax Exempt School Buildings. Clayford T. Grimm, P. E., Special Consultant, 1959.

2. A survey by Walter Gerson & Associates, Inc., Marketing research and management consultant firm, December, 1959.

3. Present value: means of expressing future payments in terms of today's dollar.

A. Specular Alzac Reflector
B. 100 Watt Lamp, G-16 1/2 Bayonet Base, D.C.
C. Condensing Lens System
D. 4-Way Frame-In-Shutters
E. Projection Lens System
Housing Dimensions: 10" diameter, 10" deep




$40.39 LIST PRICE*

halo H4170

# PROJECTO-SPOT

*Light . . . Exactly where you want it!*

Photos by Hedrich-Blessing
Furniture by Heywood-Wakefield

**PROJECTOR SPOTLIGHT**

Halo's new Picture Spotlite and Adjustable Downlite opens an exciting, versatile new world of uses for recessed lighting. The H4170 casts rectangles, squares and geometric shapes that are dramatically effective for *exact* lighting of pictures, tables, buffets or particular areas. The new unit provides adjustment up to 40° from the vertical—maximum beam diameter is 63°—aperture opening is 1½"—frame is 11¼", finished in eggshell paint. For low cost lighting versatility and efficiency, order the Halo H4170 . . . today!

*Price subject to zone differences

**ATTENTION ARCHITECTS:**
Write today for complete details on H4170 and **FREE** full color Halo Lighting Catalog.

halo **LIGHTING PRODUCTS INCORPORATED**

*4201 West Grand Avenue • Chicago 51, Illinois*

# FOR A QUALITY ROOF, IT'S BARRETT

- FINEST MATERIALS... BOTH ROOFING AND ROOF INSULATION
- APPLIED BY BARRETT APPROVED ROOFERS
- BACKED BY BARRETT ROOF INSPECTION SERVICE

Taking chances can be fun. But if you like to play it safe—at least where roofs are concerned—specify Barrett. Pitch or asphalt, applied over Barrett surface-sized roof insulation, adds up to roofs that will be giving trouble-free service when the present board chairman's son is board chairman.

# ACROSS THE BOARD

Barrett's SPECIFICATION® Roof is the **only** 25-year bonded pitch and felt roof. For buildings requiring an asphalt flat roof, we've got the best, too—the new ANCHORBOND†. And now we've added the finest fiberboard roof insulation. For 106 years, Barrett has offered the finest in built-up roofing materials.

**BARRETT IS OUT TO HELP YOU!** With a line of dependable, highest quality building materials that includes: ASPHALT SHINGLES • ROLL ROOFINGS • FIBERBOARD PRODUCTS • ALUMINUM SIDING • GYPSUM PRODUCTS • PROTECTIVE COATINGS AND CEMENTS.

**BARRETT DIVISION**
40 Rector Street, New York 6, N. Y.

Allied Chemical

†Trade Mark of Allied Chemical Corporation

# See what an all-glass "skin" of PPG SOLARGRAY® TWINDOW® does for this magnificent new building!

*Architects: Greacen & Brogniez, Houston, Texas • Associate Architect: J. Victor Neuhaus III, Houston, Texas*
*General Contractor: Marshall Construction Co., Houston, Texas*

The beautiful new six-story building on the corner of Fannin and Hadley Streets, Houston, Texas is the headquarters for Gibralter Savings Association. Its gleaming surface is one continuous skin of glass—22,382 sq. ft. of SOLARGRAY plate glass TWINDOW. TWINDOW insulates, eases the load on air conditioning, cuts down on outside traffic noise. The outer pane of each TWINDOW unit is SOLARGRAY heat-absorbing, glare-reducing plate glass. SOLARGRAY's neutral gray tint shuts out about 50% of the sun's heat, eliminates glare problems, yet lets plenty of refreshing light come through. Other products supplied and erected by PPG for this building: PITTCO® 25-X framing, polished plate glass, HERCULITE® doors and sidelights, TUBELITE® door frames, and mirrors. Ask your PPG architectural representative for specific data. Or, check your PPG General Glass Catalog in Sweet's.

**Pittsburgh Plate Glass Company**

*Paints • Glass • Chemicals • Fiber Glass  In Canada: Canadian Pittsburgh Industries Limited*

**LATEST WORD FROM MARS**
is the superb new Technico lead holder—with clear-view degree indicator placed right at your fingertips. Contoured for perfect balance, with new positive finger grip, it's the newest of many fine MARS drafting aids—all designed to make your work easier, and to make it look better and reproduce better.

Among the famous imported Mars drafting products are: the Mars-Technico push-button lead holders (with adjustable degree indicator*, with specific degree imprint, the economy model*); Mars-Lumograph drawing leads*, 18 degrees, EXB to 9H; Mars-Lumograph drawing pencils, 19 degrees, EXEXB to 9H; Mars-Duralar pencils and leads for drafting on Mylar® -base drafting film —5 special degrees, K1 to K5; Mars-Duralar Technicos with adjustable Duralar degree indicator; Mars-Lumochrom colored drawing pencils, 24 shades. Also: Mars Pocket-Technico for field use; Mars pencil and lead sharpeners; Mars Non-Print pencils and leads; Mars-Duralar erasers. Mars products are available at better engineering and drafting material suppliers everywhere.

® T.M. for duPONT's Polyester film. *Shown.

*the pencil that's as good as it looks* **MARS**
J.S. STAEDTLER, INC.
HACKENSACK, NEW JERSEY

# Air-Conditioner Performance Can Be Guaranteed

When you specify unitary* air-conditioning equipment with this Seal, you are assured that it will deliver rated performance, even under adverse conditions.

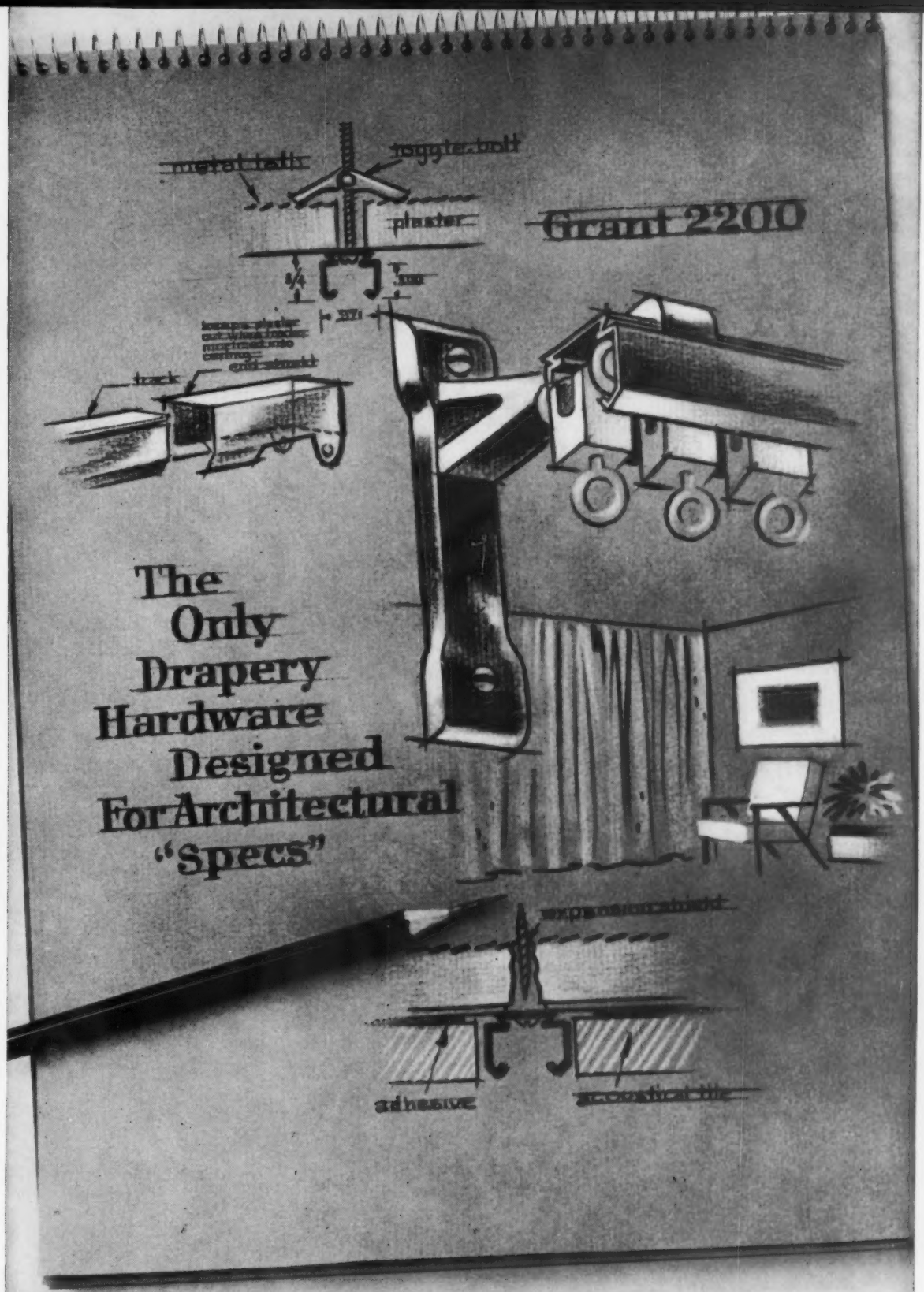
Who gives you this assurance? Fifty-one manufacturers, producing more than 90% of all unitary air-conditioning equipment sold, support the industry-wide certification program symbolized by this ARI Seal. All certify that their equipment will perform as rated.

To be granted this Seal by the Air-Conditioning and Refrigeration Institute, a manufacturer must rate his equipment in standard Btu per hour (Btuh) or equivalent tons, and not in the often misleading terms of "horsepower" or "square feet." His equipment is subject to random selection from stock for intensive testing and verification (including tests under adverse conditions) in an independent testing laboratory. Any model which fails to deliver rated capacity, or fails to withstand this severe testing, must be brought up to standard or be withdrawn from production.

Send for the latest ARI Directory, which lists all unitary air-conditioners certified under this program. It will aid you in specifying. There is no charge. Write to: Chief Engineer, Dept. P-903, **Air-Conditioning and Refrigeration Institute,** 1346 Connecticut Ave., N.W., Washington, D.C.

*"Unitary" air-conditioners included in this program: all packaged air-conditioners, whether single units or two-piece units (called "split" systems), designed to be used together, up to 135,000 Btu per hour (Btuh) in capacity, but not including room air-conditioners. ARI Standard 210-58 for electrically-driven equipment; ARI Standard 250-58 for heat-powered equipment.

*Manufacturers participating in this program as of July 1, 1960:*
• Airtemp Division, Chrysler Corporation • Amana Refrigeration, Inc. • American Furnace Company • American-Standard Industrial Division, American Radiator and Standard Sanitary Corporation • Arkla Air Conditioning Corporation • Armstrong Furnace Company, Division of National Union Electric Corporation • Bryant Manufacturing Company • Carrier Corporation • Cleveland Steel Products Corporation, Toridheet Division • Cobell Industries Incorporated • Coolerator Division, McGraw-Edison Company • Crane Co. • Curtis Manufacturing Company • Day & Night Manufacturing Company • Florida Warren Corporation • Fraser & Johnston Company • Friedrich Refrigerators, Incorporated • Gaffers & Sattler • General Electric Company • Goettl Bros. Metal Products Inc. • Holly-General Company, Division of The Siegler Corporation • International Metal Products Division, McGraw-Edison Company • Janitrol Heating and Air Conditioning, Division of Midland-Ross Corporation • John Zink Company • Laurel Products, Inc. • Lennox Industries Incorporated • Lincoln Air Control Products, Inc. • The Mathes Company, Division of Glen Alden Corporation • Miami Products Incorporated • Mission Appliance Corporation • Mueller Climatrol, Division of Worthington Corporation • National Thermatic Corporation • The Payne Company • Peerless Corporation • Perfection Division, Hupp Corporation • Pioneer Industries, Division of Almar York Co., Inc. • Rheem Manufacturing Company • Round Oak Division of Peerless Corporation • Southwest Manufacturing Company • Stewart-Warner Corporation • Therm-Air Manufacturing Company • The Trane Company, • Typhoon Air Conditioning Division, Hupp Corporation • United States Air Conditioning Corporation • Welbilt Air Conditioning and Heating Corp. • Westinghouse Electric Corporation • Williams Oil-O-Matic Heating Company • Worthington Corporation • Wright-Temp Manufacturing Company, Inc. • York Corporation

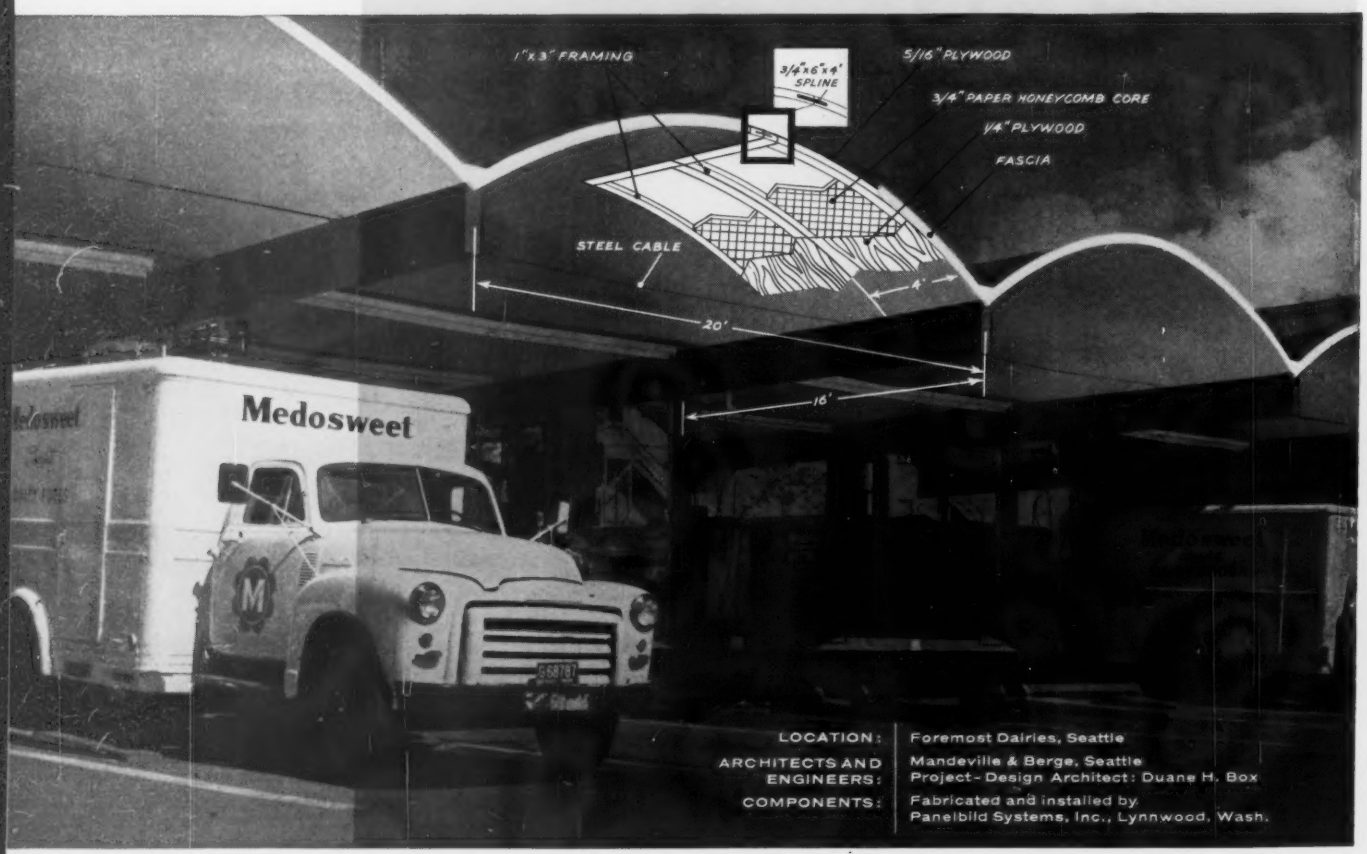



# GRANT DRAPERY HARDWARE

GRANT PULLEY AND HARDWARE CORPORATION

*Eastern Division/ 49 High Street, West Nyack, N. Y.*
*Western Division/ 944 Long Beach Ave., Los Angeles 21, Calif.*

sliding door hardware • drawer slides • drapery hardware • pocket frames • pulls • special sliding hardware




| | |
|---|---|
| LOCATION: | Foremost Dairies, Seattle |
| ARCHITECTS AND ENGINEERS: | Mandeville & Berge, Seattle<br>Project-Design Architect: Duane H. Box |
| COMPONENTS: | Fabricated and installed by<br>Panelbild Systems, Inc., Lynnwood, Wash. |

# new approaches to structural design with fir plywood

THE GRACEFUL, repetitively curved roof of this loading dock translates an ancient architectural shape—the arch—into today's idiom with modern lightweight fir plywood components.

The floating, airy profile is deceptive. Actually, the roof has extremely high resistance to vertical loading. Construction went fast because of the large size of prefabricated plywood components, and in-place cost was substantially less than thin-shell concrete or a conventionally framed flat roof with the same span.

Capitalizing on fir plywood's high strength and workability, the vaulted roof system offers wide design flexibility through variations in radius, span and number of arches. The distinctive roofline is appearing on more and more schools, commercial buildings and homes.

In this application, 12 bays, 20 x 40 ft., and two half bays shelter 48 loading stations along a 260-ft. conveyor platform. Vault supports are beams and steel columns. Roof components are 4 x 13-ft. curved stressed skin fir plywood panels, used in pairs (spline jointed at midpoint of the vault) to form an arch with a 16-ft. radius and a 2½-ft. rise.

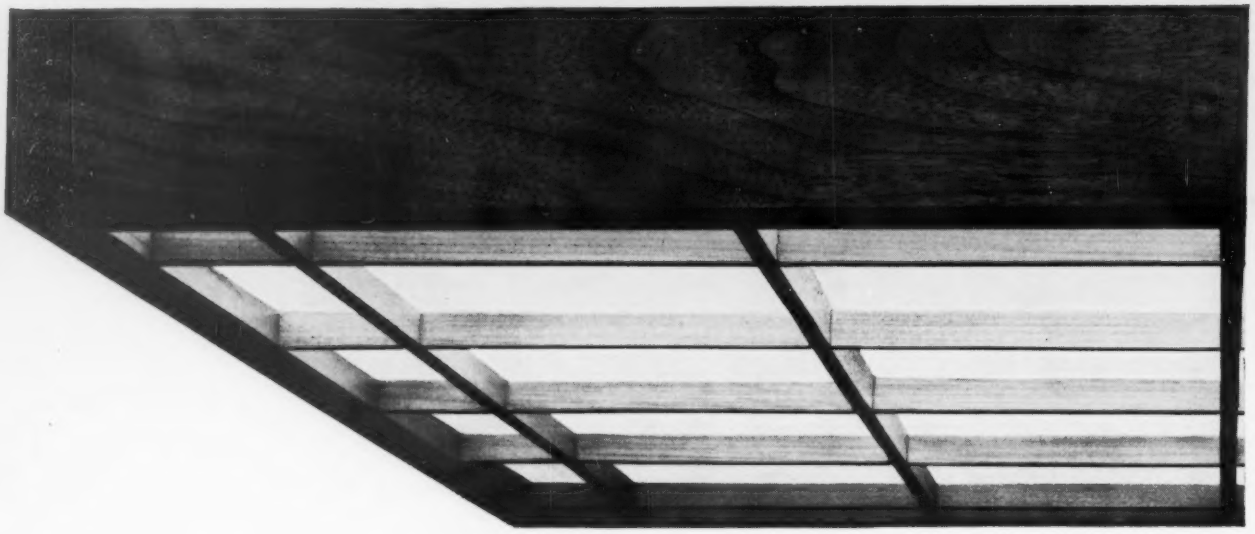
For basic design data on fir plywood or information about fir plywood components, write to Douglas Fir Plywood Association, Tacoma 2, Washington. (Offer good USA only.)

DFPA®
TESTED
QUALITY

ALWAYS SPECIFY BY
DFPA TRADEMARKS

**This is the embodiment of a design philosophy**... a blending of function with aesthetics ... an imaginative application of appropriate materials to good lighting. The product is *Corona,* an appealing new treatment for fluorescents that transforms them into an effective decorative element. A wonderfully warm walnut frame surrounds the diffusing pane, while handsome birch

# NEW! FLUORESCENTS



# LIGHTC

*Jersey City 5, New Jersey  Showrooms: New York, Chicago, Dallas, Los Angeles*

Corona is stocked by these Authorized LIGHTOLIER Distributors:

ALABAMA
*Birmingham:*
Mayer Elec. Sup. Co.

ALASKA
*Anchorage:*
Northern Supply Co.

ARIZONA
*Phoenix:*
Brown Wholesale Elec.
*Tucson:*
Beacon Ltg. Fix. Co.

ARKANSAS
*Little Rock:*
Adcock Ltg. & Sup.

CALIFORNIA
*San Francisco:*
California Elec. Sup. Co.

COLORADO
*Denver:*
Central Elec. Sup. Co.

CONNECTICUT
*Bridgeport:*
B. M. Tower Co., Inc.
*Hartford:*
Beacon Light & Sup. Co.
*New Haven:*
Grand Light & Sup. Co.
*New London:*
United Elec. Sup. Co.
*Stamford:*
Marie Co.
*Waterbury:*
Starbuck Sprague Co.
Suburban Supply Co.

DISTRICT OF COLUMBIA
*Washington:*
Maurice Elec. Sup. Co.
National Elec. Wholesalers

FLORIDA
*Miami:*
Farrey's Whlse. Hdwe. Co.

GEORGIA
*Atlanta:*
Electrical Wholesalers
Noland Co.

HAWAII
*Honolulu:*
Hawaiian Light & Sup. Co.

ILLINOIS
*Chicago:*
Efengee Elec. Sup. Co.
Englewood Elec. Sup. Co.
Harlo Elec. Sup. Co. Inc.
Hyland Elec. Sup. Co.
Metropolitan Elec. Sup.
Steiner Elec. Co.
Wholesale Elec. Sup. Co.
*Elgin:*
Fox Elec. Sup. Co.
*Rockford:*
Englewood Elec. Sup. Co.
*Springfield:*
Springfield Elec. Sup. Co.

INDIANA
*Ft. Wayne:*
Mossman-Yarnelle Co.
*Gary:*
Englewood Elec. Sup. Co.
*South Bend:*
Englewood Elec. Sup. Co.

IOWA
*Des Moines:*
Weston Lighting, Inc.

KANSAS
*Kansas City:*
W. T. Foley Elec. Co.

KENTUCKY
*Louisville*
Henry J. Rueff Co.

LOUISIANA
*Baton Rouge:*
Electrical Wholesalers Inc.
*New Orleans:*
Interstate Elec. Co.

MAINE
*Bangor:*
Standard Elec. Co.
*Portland:*
Holmes Elec. Supply Co.

MARYLAND
*Baltimore:*
Excello Public Serv. Corp.
*Salisbury:*
Artcraft Elec. Sup. Co.

MASSACHUSETTS
*Boston:*
Mass. Gas & Elec. Light Co.
Henry L. Wolfers, Inc.
*Pittsfield:*
Carr Supply Co.
*Springfield:*
Arco Elec. Sup. Co.
Eastern Elec. Sup. Co.
*Worcester:*
Atlantic Elec. Sup. Co.
Benjamin Elec. Sup. Co.

MICHIGAN
*Detroit:*
Madison Elec. Co.
Michigan Chandelier Co.
*Flint:*
Royalite Co.
*Grand Rapids:*
Purchase Elec. Sup. Co.
*Jackson:*
Electric Wholesale Sup. Co.
*Pontiac:*
Standard Elec. Co.
*Saginaw:*
Schmerheim Elec. Co.
Standard Elec. Sup. Co.

MINNESOTA
*Duluth:*
Northern Elec. Sup. Co.
*Minneapolis*
Charles A. Anderson & Co.
Northland Elec. Sup. Co.
*St. Paul:*
Lax Elec. Co.

MISSOURI
*Kansas City:*
Glasco Elec.
*St. Louis:*
M. K. Clark
*Springfield:*
Southern Materials Co.

MONTANA
*Great Falls:*
Glacier State Elec.

NEBRASKA
*Lincoln:*
White Elec.
*Omaha:*
Electric Fix. & Sup. Co.

NEVADA
*Reno:*
Western Elec. Dists. Co.

NEW HAMPSHIRE
*Portsmouth:*
Mass. Gas & Elec. Light Co.

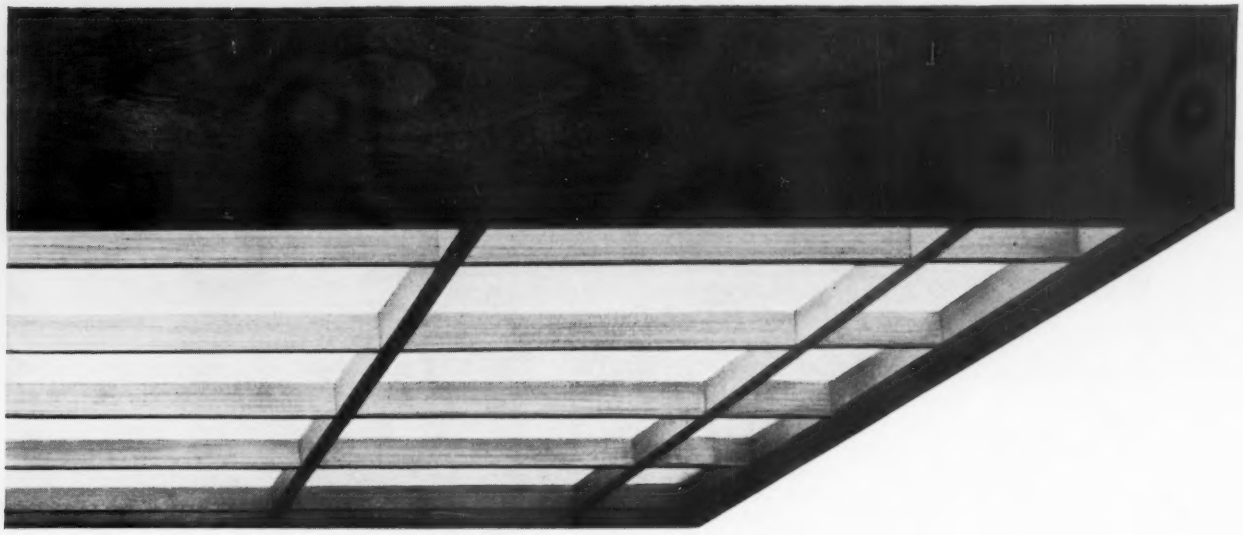
NEW JERSEY
*Atlantic City:*
Frankin Elec. Sup. Co.
*Cherry Hill-Delaware Township:*
Flynn's Camden Elec. Fix. Co.

NEW MEXICO
*Albuquerque:*
The Lighting and Main. Co.

NEW YORK
*Binghamton:*
Freije Elec. Sup. Co.
*Buffalo:*
Buffalo Incand. Light Co. Inc.
*Niagara Falls:*
Hysen Supplies Inc.

baffles cut a pleasing modular pattern across its surface. The feeling is one of warmth and friendly informality . . . contemporary in styling, yet completely harmonious with traditional decor, residential as well as commercial. Optically, *Corona* is all that one might expect from a fine lighting instrument engineered by Lightolier. In four sizes: 54″ x 54″, 30″ x 30″, 32″ x 54″, 16″ x 54″.

# FRAMED IN FINE WOOD



To learn more about Corona and other surface and pendant fixtures, write today for a complete brochure to Dept. PA-9

# LIGHTOLIER®

*...for a better way of Light*

*Poughkeepsie:*
Electra Sup. Co.
*Rochester:*
Rowe Electric Sup. Co.
*Syracuse:*
Superior Elec. Corp.

NORTH CAROLINA
*Charlotte:*
Independent Elec. Sup. Co.
*Durham:*
Noland Co.
*Greensboro:*
Elec. Sup. & Equip. Co.
*Kinston:*
Kinston Elec.
*Winston Salem:*
Noland Co.

NORTH DAKOTA
*Fargo:*
Northwest Elec. Sup. Inc.

OHIO
*Akron:*
The Sacks Elec. Sup. Co.
*Canton:*
Electric Sales Co.
*Cincinnati:*
B. & B. Elec. Co.
F. D. Lawrence Electric Co.
Richards Elec. Sup. Co.
*Cleveland:*
The H. Leff Electric Co.
Midland Elec. Co.
*Columbus:*
Elgee Elec. Co.
The Loeb Elec. Co.
*Dayton:*
Duellman Elec. Co.
*Springfield:*
The W. W. Elec. Co.

*Toledo:*
Gross Elec. Fix. Co.
*Youngstown:*
Mart Industries

OKLAHOMA
*Oklahoma City:*
Elec. Sup. of Oklahoma

OREGON
*Portland:*
Baker-Barkon Co.

PENNSYLVANIA
*Allentown:*
Coleman Elec. Co.
*Erie:*
Kraus Elec. Co.
*Harrisburg:*
Fluorescent Sup. Co.

*Hazleton:*
Power Elec. Co. Inc.
*New Castle:*
Midwestern Elec. Co.
*Philadelphia:*
Ace Lighting Fix. Co.
Gold Seal Elec. Sup. Co.
Sylvan Elec. Fix. Co.
*Pittsburgh:*
Allied Elec. Sup. Co.
Argo Lite Studios
Brown & Green
Wally Elec. Sup. Co.
*Reading:*
Coleman Elec. Co.
*Scranton:*
Lewis & Reif, Inc.
*Uniontown:*
Pioneer Electric Dist.

*Wilkes Barre:*
Anthracite Elec.

RHODE ISLAND
*Pawtucket:*
Major Elec. Sup. Co.
*Providence:*
Leavitt Colson Co.

SOUTH CAROLINA
*Columbia:*
Capitol Elec. Sup.
Noland Co.
*Greenville:*
Sullivan Hdwe. Co.

SOUTH DAKOTA
*Watertown:*
J. H. Larson Elec. Co.

TENNESSEE
*Knoxville:*
Square Elec. Sup. Co.

*Memphis:*
Belvedere Lighting Co.
*Nashville:*
Nashville Elec. Sup. Co.

TEXAS
*Dallas:*
Rogers Elec. Sup. Co.
*Ft. Worth:*
Anderson Fixture Co.
Cummins Supply Co.
General Industrial Sup. Corp.
*Houston*
Gross Electric Supply
Martin Associates
Southern Electric Supply Co.
*San Antonio:*
Southern Equip. Co.
Strauss-Frank Co.

UTAH
*Salt Lake City*
Artistic Lighting

VIRGINIA
*Arlington:*
Dominion Elec. Sup. Co. Inc.
Noland Co.
*Lynchburg:*
Mid-State Elec. Sup. Co., Inc.
*Norfolk:*
Noland Co.
*Roanoke:*
Noland Co.

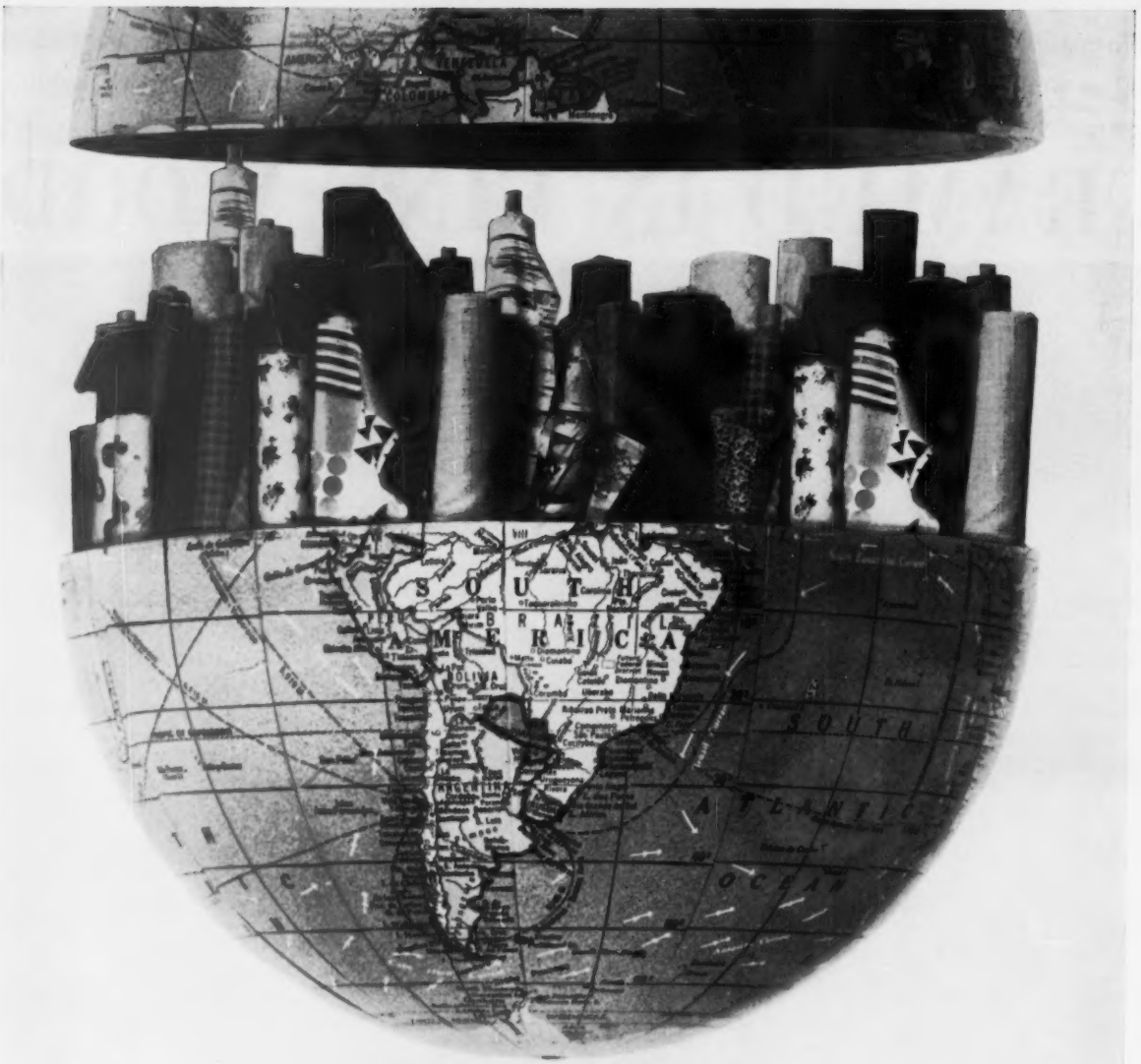
WEST VIRGINIA
*Huntington:*
West Virginia Elec. Co.
*Wheeling:*
The Front Co.

WISCONSIN
*Appleton:*
Moe Northern Co.

*Eau Claire:*
W. R. Hobbs Sup. Co.
*La Crosse:*
W. A. Roosevelt Co.
*Milwaukee:*
Lappin Electric Co.
Standard Elec. Sup.

WASHINGTON
*Seattle:*
Seattle Lighting Fix. Co.

CANADA
*Montreal:*
L. D. G. Products, Inc.
The Gray Elec. Co.
Union Electric Sup. Ltd.
*Quebec City:*
La Cie Martineau Electric Co.
*Toronto:*
Revere Elec. Dist.
Toronto Ltg. Studios




# A WORLD OF FABRICS

There are many miles upon miles of fabric in the contract world of Functional Fabrics. A world of unbounded choice in styles, fibers, colors and patterns. A world where prices are miles lower than the average contract price range . . . low enough for the most restricted contract budget. And, Functional Fabrics, Inc. is stocked with sufficient yardage for the most extensive, and immediate, contract requirements. If your needs are these . . . contract, and reasonably big contract . . . write, FUNCTIONAL FABRICS INC. *An Affiliate of Kandell Industries. Established 1925.* 261 Fifth Avenue, New York 16, New York.

FUNCTIONAL FABRICS INC.

*We specially feature* OWENS-CORNING FIBERGLAS *Fenestration Fabrics in prints, solids, textures for heat and sun glare control.*

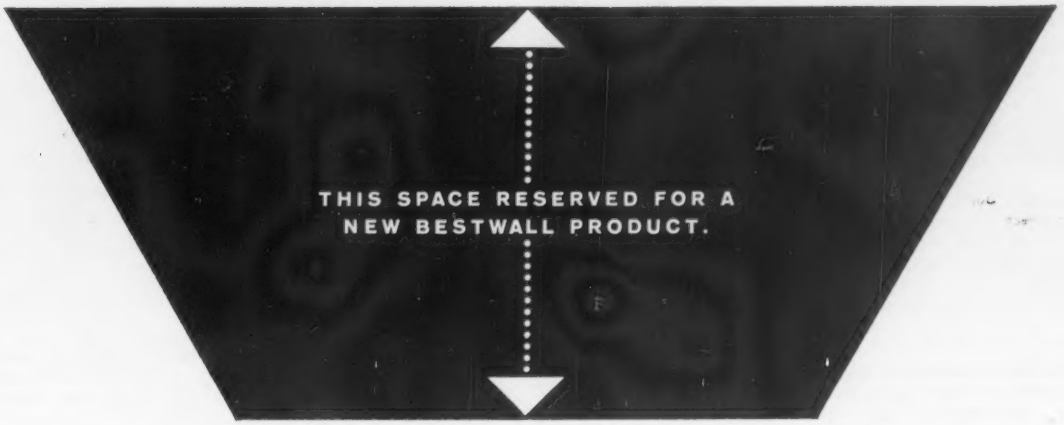
10...

9...8...

7...6...5...

4...3...2...1

COMING SOON! NEW INCOMBUSTIBLE ACOUSTICAL TILE FROM BESTWALL: A MAJOR BREAKTHROUGH IN TILE DESIGN GIVING YOU 'SPACIAL SILENCE'. SEE IT SOON.



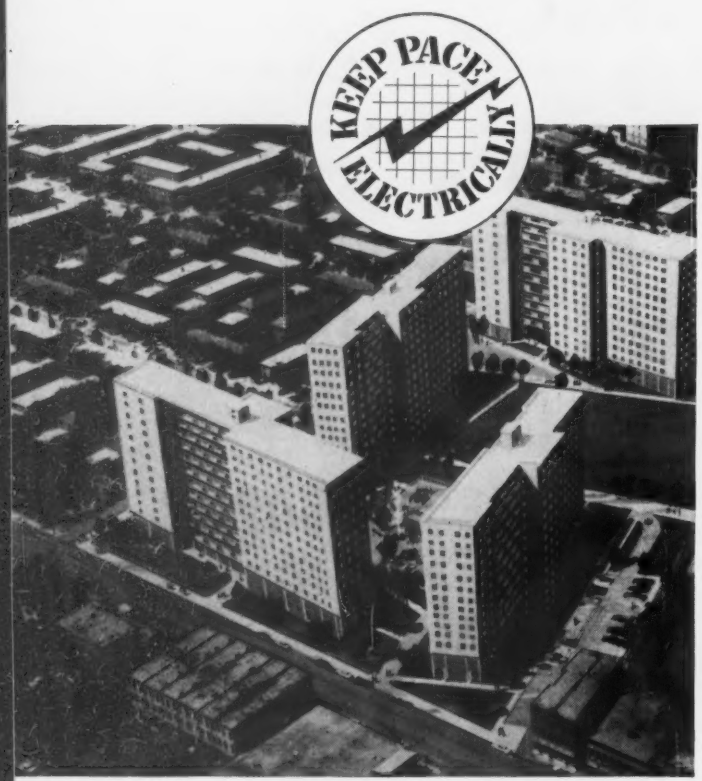

FIREPROOF GYPSUM
BESTWALL
BUILDING PRODUCTS

BESTWALL GYPSUM COMPANY
Ardmore, Pennsylvania
Plants and offices throughout the United States

*Provide for future capacity... economically*

# REPUBLIC ELECTRICAL METALLIC TUBING

*... in the next larger size*




Clarence Darrow Homes, Chicago Housing Authority, Chicago, Illinois
Architect: L. R. Solomon & Associates, Chicago, Ill.
General Contractor: Sumner-Sollitt Company, Chicago, Ill.
Electrical Contractor: Gerson Electrical Construction Co., Chicago, Ill.

In planning today's modern multi-family housing—architects, builders, investors, and housing authorities, are providing for greater electrical load-building tomorrow by specifying and installing electrical conduit in sizes to meet tomorrow's growing electrical demands.

That is why Republic ELECTRUNITE Electrical Metallic Tubing is being installed at more and more big projects—like the Chicago Housing Authority Job, Project No. 2-36, Clarence Darrow Homes, 38th Street, Langley Avenue and East Pershing Road, Chicago, Illinois.

ELECTRUNITE more than pays for itself in installation economies that save so much in time and material that electrical contractors are able to install ELECTRUNITE in the next larger size at very little, if any, additional cost over threaded type conduits.

And, ELECTRUNITE provides a pull-in, pull-out grounded wiring system that can be expanded simply by adding or replacing wire. No need to rip out walls or ceilings. No tearing up floors. And, the installation economies of Republic "INCH-MARKED"® E.M.T. makes all this possible within the framework of the original financing.

Buy future capacity for tomorrow at today's costs. Specify Republic ELECTRUNITE E.M.T. by brand name. Call your Republic representative, or send coupon for complete information.

**REPUBLIC ELECTRUNITE® E.M.T.** is best for concrete installations. ELECTRUNITE's tightly adhering galvanized coating protects against corrosion. Won't peel, chip, or flake off during bending. Resists galvanic action. Proved by millions of feet installed over the past 25 years. Still in service today, ready for more service tomorrow.

**ELECTRUNITE KEEPS PRODUCTION SCHEDULES ON TIME!** And future electrical loads can be increased easily because ELECTRUNITE's exclusive "INSIDE-KNURLING"® with SILVERSLICK® finish makes wire pulling up to 37% easier, wire pushing easier, too. ELECTRUNITE is produced to meet local, state, and national codes, and carries the Underwriters' Laboratories Seal of Inspection.

**REPUBLIC HIGH STRENGTH BOLTS CUT CONSTRUCTION TIME!** Project: 850-foot continuous span overpass, West 140th Street, Cleveland, Ohio. Job completed, bridge in service in just nine months, three months ahead of schedule! According to the contractor, Hunkin-Conkley Construction Co., Cleveland, "Republic High Strength Bolts helped speed erection, kept costs down." Get the complete story of the advantages of Republic High Strength Bolts. Call your Republic representative, or send coupon.

**TRUSCON'S COMPLETE LINE OF RESIDENTIAL DOORS** are designed for better living, better homebuilding. For example, the Truscon Classic Louver Folding Door offers wall-to-wall accessibility and convenience. Economical, easy to install. Close effortlessly, quietly on lifetime nylon pivots. Harmonize with any decor. Traditional beauty with traditional Truscon quality. Write for complete information.

**TRUSCON VISION-VENT® CURTAIN WALLS** are a modern building product that goes up fast, keeps costs down. VISION-VENT is a wall design with the window already in place. Available in steel, stainless steel, porcelain enamel steel, and aluminum—with a wide selection of window installations, double-hung, intermediate projected, and many others. Panels can be provided for heating or ventilating systems. Write for complete information.

REPUBLIC STEEL

# REPUBLIC STEEL

*World's Widest Range of Standard Steels and Steel Products*

**REPUBLIC STEEL CORPORATION**
**DEPT. PA-9940**
**1441 REPUBLIC BUILDING • CLEVELAND 1, OHIO**

Please send more information on the following products:

☐ Republic ELECTRUNITE Electrical Metallic Tubing
☐ Republic High Strength Bolts
☐ Truscon Residential Doors ☐ VISION-VENT Curtain Wall

Name_____ Title_____

Firm_____

Address_____

City_____ Zone____ State_____

# NEW 800 "PLUS" FLOOR BOXES

## Here's A Floor Box That Takes The Full Range Of Receptacles

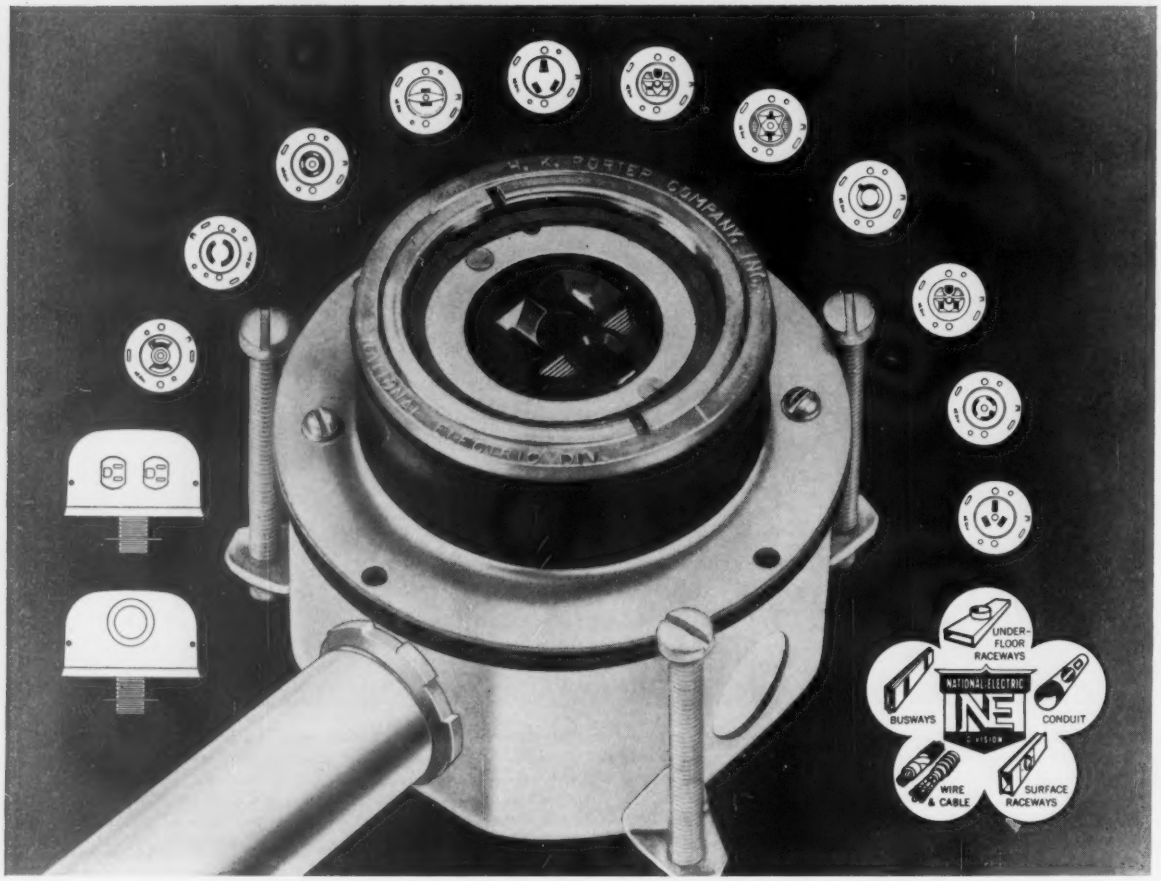
**ALL THE ADVANTAGES OF THE 800 FLOOR BOX**

**"PLUS"** Accepts widest range of flush floor receptacles through 20 amps—standard service fittings taking receptacles through 50 amps.

**"PLUS"** Larger hand-hole for easier fishing.

**"PLUS"** Mounting ring for easy field installation of intercom and low potential jacks.

**"PLUS"** Accepts all standard attachment plugs.




All of these plus values have been incorporated in the new 800-"Plus" Floor Box with no increase in price, and without sacrificing any of the quality features of the original box. Leveling adjustment has actually been increased . . . gasket provides positive water-tight seal . . . floor plate now accommodates ½, ¾ and 1 inch conduit . . . and both the 1½ and 2⅛ inch deep bodies offer a wide range of knockouts.

Ask your N-E Man for full information on the floor boxes that were developed to meet the specifications of contractors and engineers, or write for complete, descriptive literature. *National Electric Division, H. K. Porter Company, Inc., Porter Building, Pittsburgh 19, Pennsylvania.*

***NATIONAL ELECTRIC DIVISION*** PORTER ***H. K. PORTER COMPANY, INC.***

**PORTER SERVES INDUSTRY** with steel, rubber and friction products, asbestos textiles, high voltage electrical equipment, electrical wire and cable, wiring systems, motors, fans, blowers, specialty alloys, paints, refractories, tools, forgings and pipe fittings, roll formings and stampings, wire rope and strand.

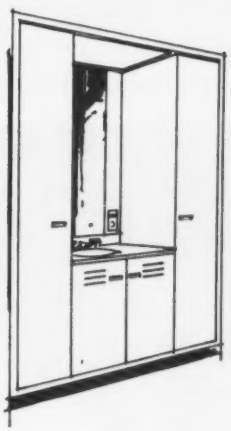
# New developments in patient care...

## by St. Charles

Wardrobe/Dresser/Lavatory

Medi-Serv Unit

Wardrobe/Dresser



Wardrobe/Lavatory

Nurses Station

***"Patient Line" Wardrobes.*** Functionally designed to meet all storage, vanity and lavatory requirements. An attractive, efficient and economical solution to patient room storage and grooming convenience. Completely flexible . . . built-in or free-standing . . . meets varying patient room needs in new plans or alterations of existing buildings.

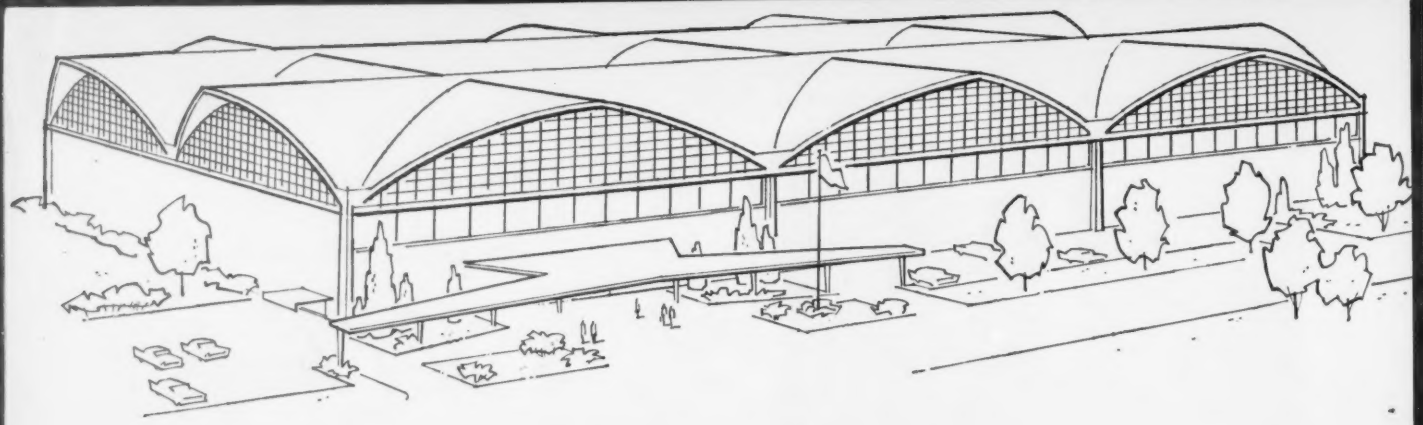
***Nurses Station.*** Compact, space-saving "Medi-Serv" Unit includes sink, refrigerator and adequate storage for medicine preparation needs. Custom designed nurses desk includes nurses call unit.

**For complete information** *and specifications of the complete line of St. Charles casework systems for all hospital storage requirements write, on your letterhead, to:*

St. Charles

**Hospital Casework Systems**

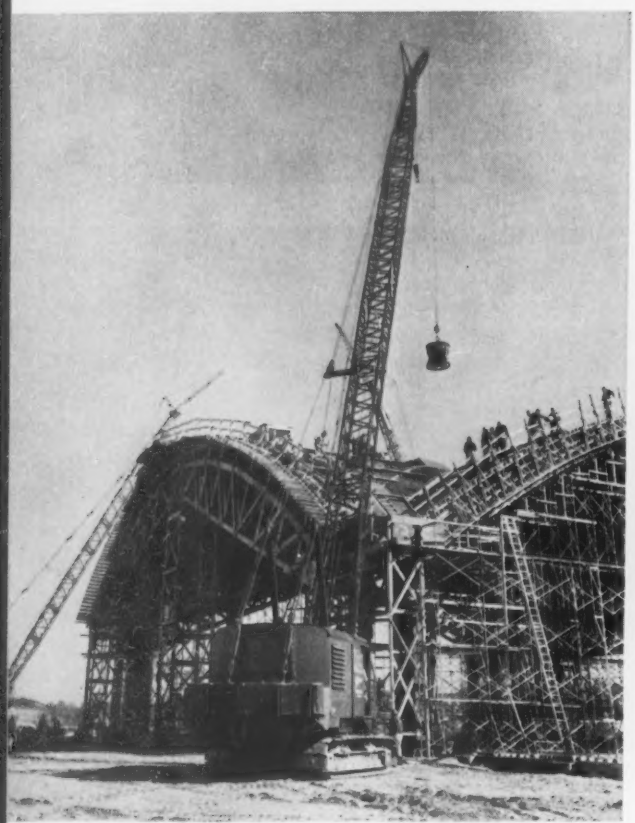
St. Charles Mfg. Co., Dept. PAH-9, St. Charles, Ill.



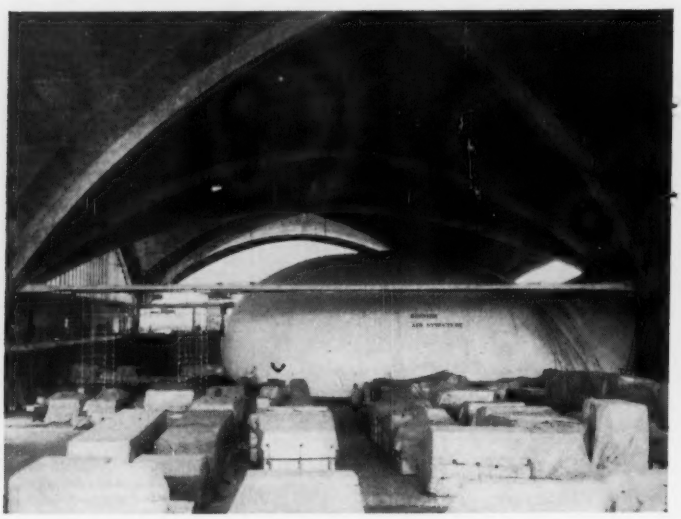
# Nation's first automated Post Office uses prefabricated THINLITE curtain wall for sun and weather control

PROJECT TURNKEY in Providence, Rhode Island, is a $20 million postal laboratory . . . the nation's first fully mechanized Post Office. Charles A. Maguire & Associates, Providence, is the architect-engineer; Gilbane Building Company, Providence, is the general contractor. Intelex Systems Incorporated, subsidiary of International Telephone and Telegraph Corporation, is the prime contractor.

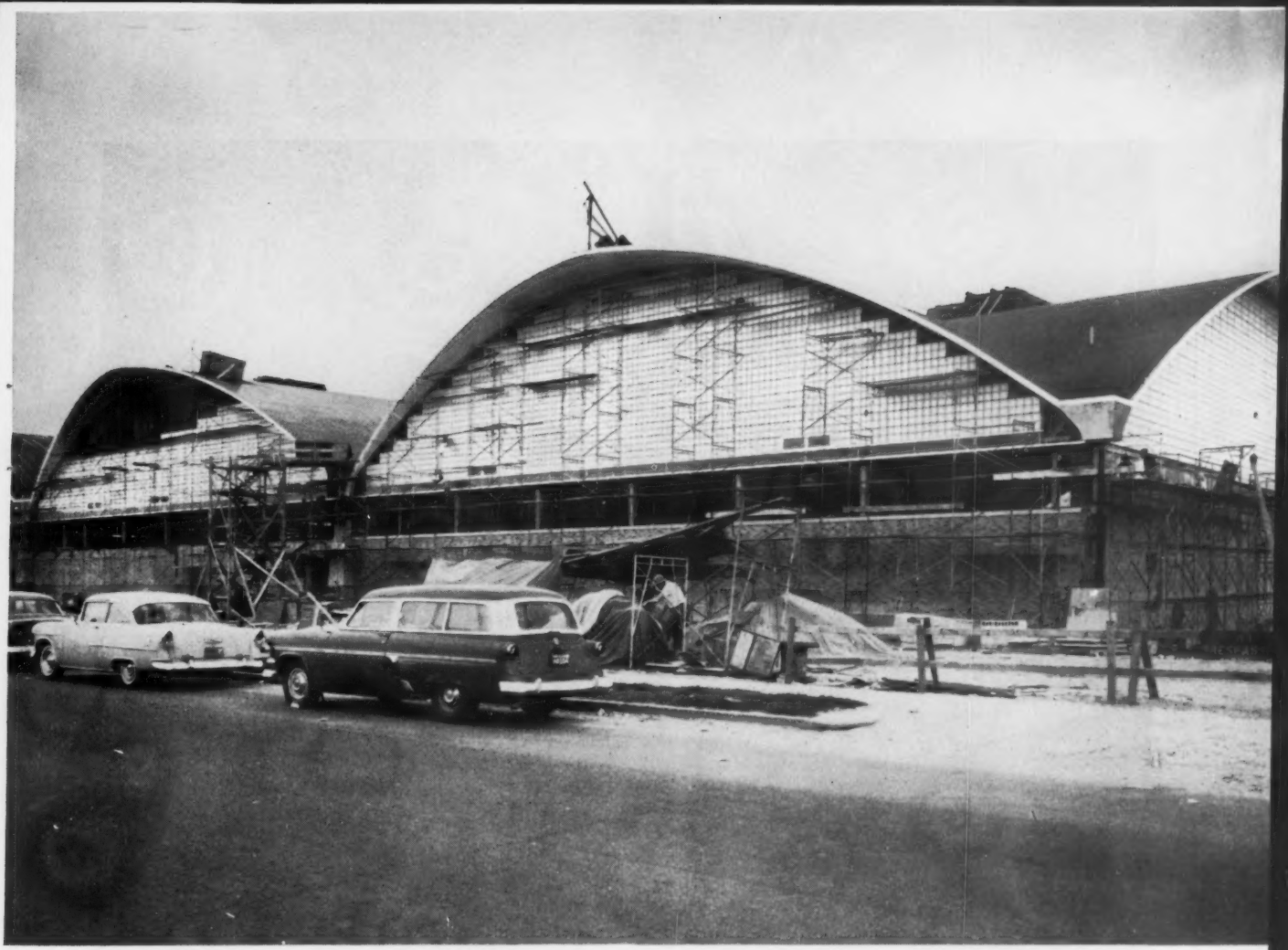
The new building, 420 feet long, 300 feet wide and 55 feet high, will be completely air-conditioned. Walls are topped with 31,000 square feet of Thinlite Curtain Wall for maximum control of daylight and temperature.



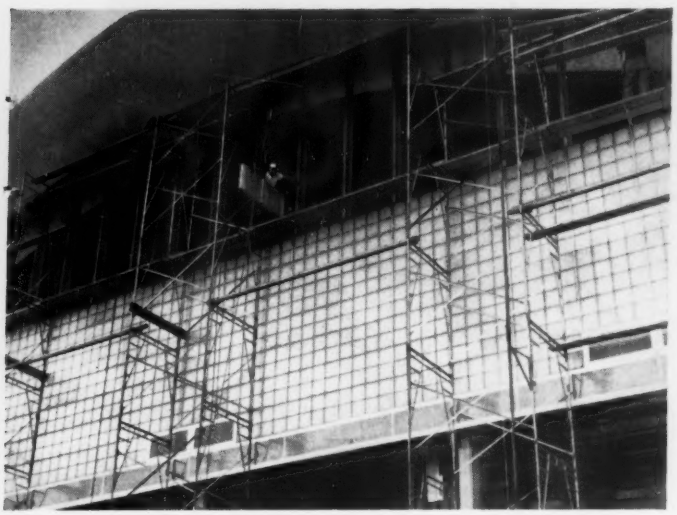
CONCRETE—some 800 cubic yards per roof unit—is poured in place above timber falsework. Falsework was moved to another segment after concrete had cured.



THIS HUGE NYLON BALLOON permits installation of highly sensitive electronic mail-handling equipment during building construction.



**IN THE EARLY STAGES,** Thinlite prefabricated panels fill the arches on Northeast and Southeast side of Project Turnkey.



NO SPECIAL EQUIPMENT is required to secure Thinlite panels to the metal framework. Thinlite will help reduce heating and air conditioning loads.

THINLITE PANELS (4x2 feet) are easily handled and bolted into place. Neoprene gasketing assures a weathertight wall.

THINLITE CURTAIN WALL
AN (I) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

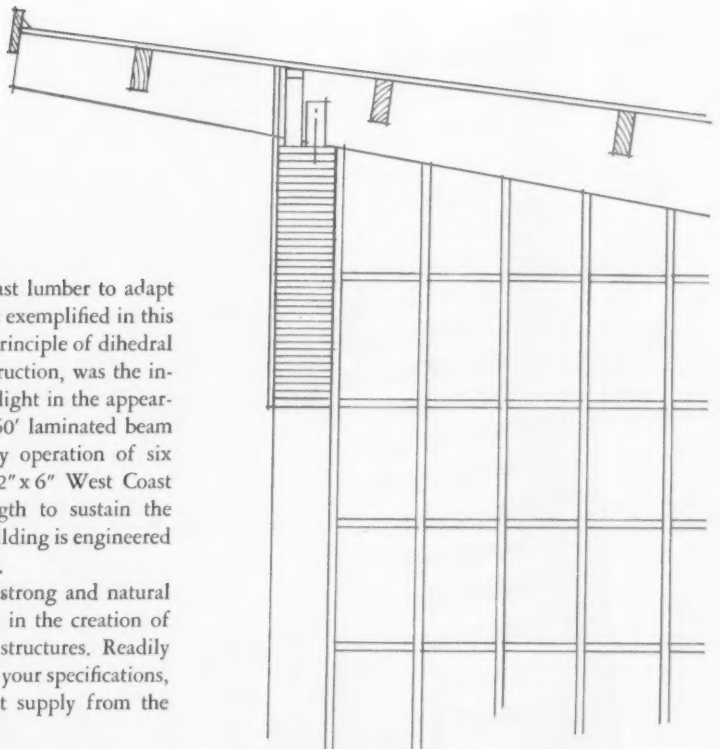
# COLORFUL CERAMIC VENEER GRILLES

serve as architectural lace to enhance appearance, utilize daylight, provide sun control and ensure privacy. Here, for the new Municipal Building at Olean, N. Y., architect Milton Milstein specified Ceramic Veneer grilles 11⅝" x 11⅝" x 2". Open grilles were specified for vertical area between entrance and windows, while other grille units have closed backs. Facing of all grilles is silvertone gray; backing is cobalt blue. Carl G. Ek & Son Construction Company, Inc. was the builder. Federal Seaboard custom-makes many smart Ceramic Veneer grille designs in a rainbow-rivaling range of colors. Write today for solar screen and color guide brochures. Without charge we will gladly furnish construction detail, data, advice and estimates on preliminary sketches involving Ceramic Veneer—grilles, plain surfaces or polychrome panels.

FEDERAL
SEABOARD
TERRA COTTA
CORPORATION

10 E. 40th St., New York 16, N.Y.
Plant at Perth Amboy, New Jersey

F S T C



The unlimited ability of West Coast lumber to adapt freely to practical modern design is exemplified in this airplane hangar. The aeronautical principle of dihedral angles, used in aircraft wing construction, was the inspiration that created a feeling of flight in the appearance of the 55′ x 118′ hangar. A 60′ laminated beam supports the roof and assures easy operation of six 11′x 16′ sliding doors. The basic 2″x 6″ West Coast lumber framework supplies strength to sustain the shear diaphragm wall skins. The building is engineered to withstand wind gusts to 75 mph.

West Coast lumber gives you a strong and natural material to spark your imagination in the creation of outstanding and unusual modern structures. Readily available in sizes and grades to meet your specifications, West Coast lumber is in abundant supply from the forests of the Pacific slopes.

## MODERN DESIGN USES WEST COAST LUMBER

**Douglas Fir West Coast Hemlock Western Red Cedar White Fir**

Architect: Ralph C. Bonadurer, A.I.A.

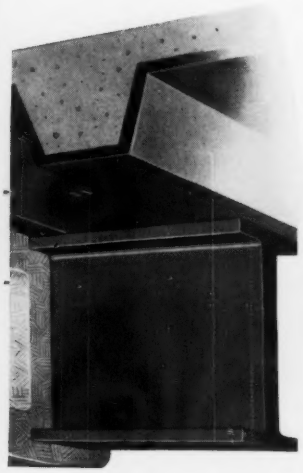
For technical West Coast Lumber information, write:

WEST COAST LUMBERMEN'S ASSOCIATION | 1410 S. W. Morrison Street, Portland 5, Oregon

# Direct-to-steel fireproofing

ITT Building, N.Y.C.
*Owner & Builder:*
Uris Buildings Corp.,
300 Park Ave., N.Y.C.
*Architects:*
Emery Roth & Sons,
400 Park Ave., N.Y.C.
*Plastering Contractor:*
Morell-Brown, N.Y.C.

# in new I T T Building gives dramatic proof...



# new ZONOLITE® MONO-KOTE

## *sprays on, stays on...cuts fireproofing costs!*

Hundreds of manhours, thousands of dollars were saved with new Zonolite Mono-Kote fireproofing on New York City's new I T T Building.

Mr. Melville Praeger, president of Morell-Brown, plastering contractors, reports that "the use of Mono-Kote in the I T T Building provided enormous savings in labor and materials. It adheres perfectly to metal, without fall-outs. It withstands humidity and temperature changes. There are no ingredients irritating to workers. Job performance quality is easily maintained. And I should add that the technical assistance given by Zonolite is invaluable, particularly in the present period when new changes are taking place in construction."

Designed specifically for machine application, Zonolite Mono-Kote represents the newest, most advanced development in fireproofing materials. Applied direct to steel beams and the underside of steel floors, it saves up to 7 inches per story in height—permitting drastic savings in other construction materials. It sprays on in one fast, trouble-free operation, sets hard and fissure-free with bond strengths of 400 to 500 psf.

Complete data on new Zonolite Mono-Kote including Underwriters' Laboratories fire-test information is yours for the asking. Phone your Zonolite Sales Office, or send the coupon today.

**ZONOLITE COMPANY**

135 S. LaSalle Street, Chicago 3, Illinois

**Mail coupon today for new technical bulletin including fire-test data**

ZONOLITE COMPANY, Dept. PA-90
135 S. LaSalle Street, Chicago 3, Illinois

Please send me MONO-KOTE Technical Bulletin PA-53

Name_____

Firm_____

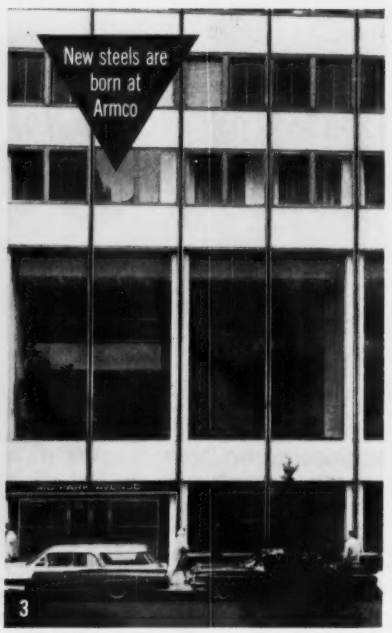
Position_____

Address_____

City & Zone_____ State_____

Stainless Steel

# In New York
# Stainless Steel Combines Economy and Timeless Beauty




1. CIT Financial Building
Architects: Harrison & Abramovitz
2. Colgate Palmolive Building
Architects: Emery Roth & Sons
3. 410 Park Avenue
Architects: Emery Roth & Sons

In New York, as in towns and metropolitan centers across the country, architects are utilizing stainless steel's inherent advantages to give their buildings timeless beauty at low cost.

Long recognized by architects as an ideal building material, stainless steel has assumed a new importance in contemporary architecture. It is suited to the concepts and requirements of modern design, and now lower installed costs put it in the same price range as less durable materials.

**Substantially lower costs for stainless** have resulted from the use of more efficient production methods such as roll-forming, effective use of stainless steel's high strength and most economical sizes and finishes, quantity production of building components, and the use of lower-cost grades that adequately meet architectural requirements.

Incorporate the time-proved quality and economy of Armco Stainless Steels in custom-designed and standard components of the architecture *you* create. Write us for your free copy of Armco Stainless Steels for Architecture, a new manual of helpful information on using stainless most effectively. Armco Steel Corporation, 2530 Curtis Street, Middletown, Ohio.

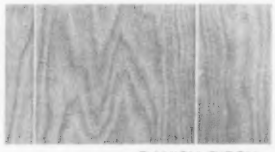
## ARMCO STEEL

ARMCO

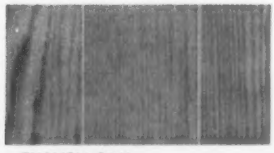
Armco Division • Sheffield Division • The National Supply Company • Armco Drainage & Metal Products, Inc. • The Armco International Corporation • Union Wire Rope Corporation

# MARLITE RANDOM PLANK

## ...beautiful wash-and-wear paneling with the exclusive soilproof baked finish



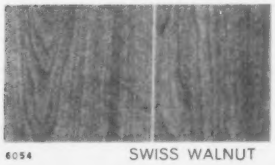
DANISH BIRCH



ENGLISH OAK

SWEDISH CHERRY

ITALIAN CHERRY



SWISS WALNUT

AMERICAN WALNUT

6054

You'll add practical new beauty to any room when the walls are paneled in Marlite Random Plank. This new "wear without care" paneling with its baked melamine plastic finish resists stains, mars and dents. An occasional damp cloth wiping keeps it spotless and new-looking year after year. Ready to use without painting or further protection, tongued and grooved Random Plank goes up fast over furring strips or existing walls. Planks are ¼" thick, 16" wide, 8' long. And you can choose a wood pattern for any decor from among the six new Trendwoods® especially created for Marlite by American Color Trends. For more information, check Sweet's File, Building Supply News Directory, or write Marlite Division of Masonite Corporation, Dover, Ohio.

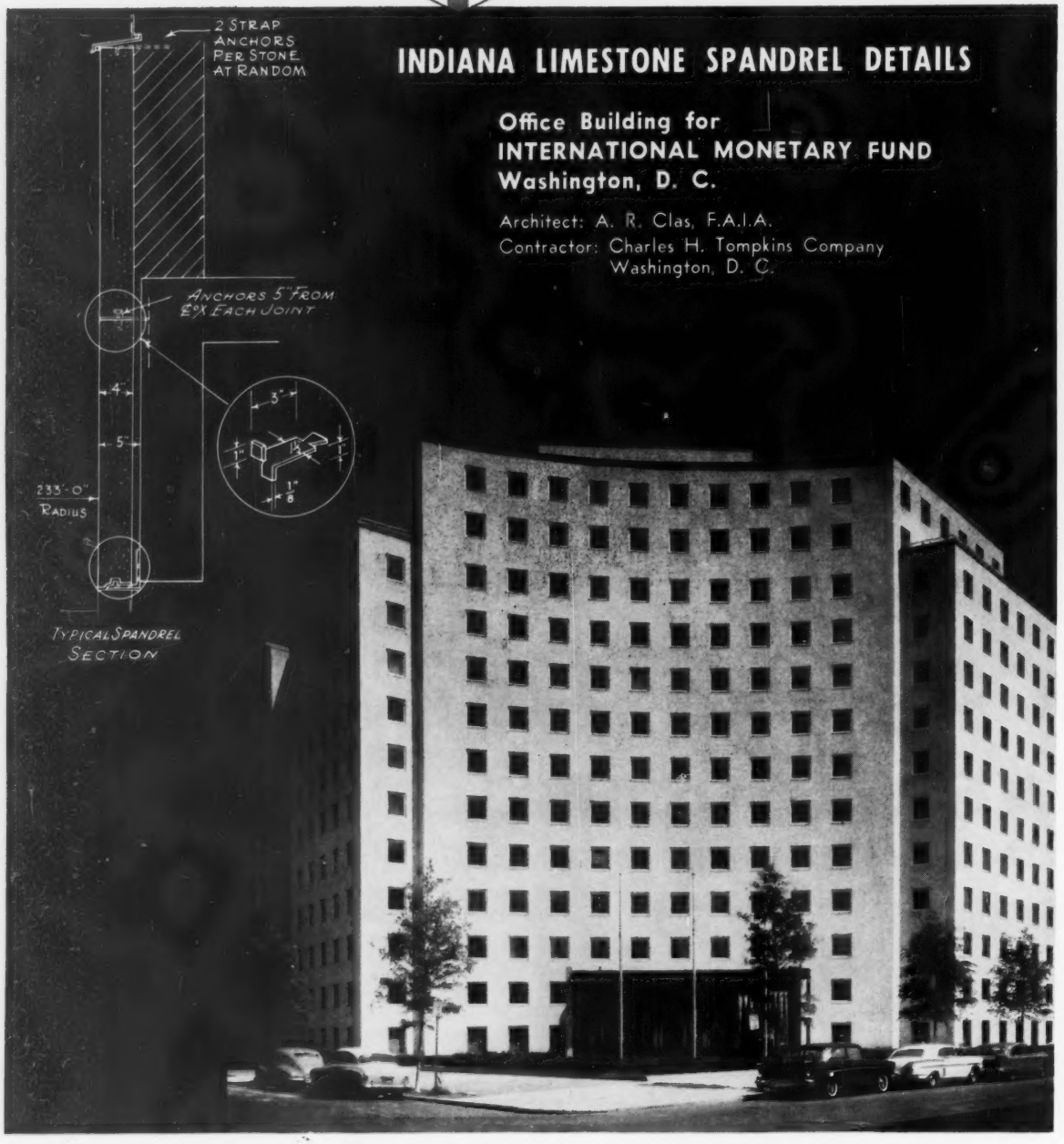
**Marlite®**

*plastic-finished paneling*

ANOTHER QUALITY PRODUCT OF MASONITE® RESEARCH

**MARLITE BRANCH OFFICES AND WAREHOUSES:** 204 Permalume Place, N.W., Atlanta 18, Georgia • 18 Moulton Street, Cambridge 38, Mass. • 1925 No. Harlem Ave., Chicago 35, Illinois 8908 Chancellor Row, Dallas 35, Texas • 3050 Leonis Blvd., Los Angeles 58, Calif. • 2440 Sixth Avenue So., Seattle 4, Washington • Branch Office: 101 Park Avenue, New York 17, N.Y.

# APPLICATIONS IN CONTEMPORARY ARCHITECTURE



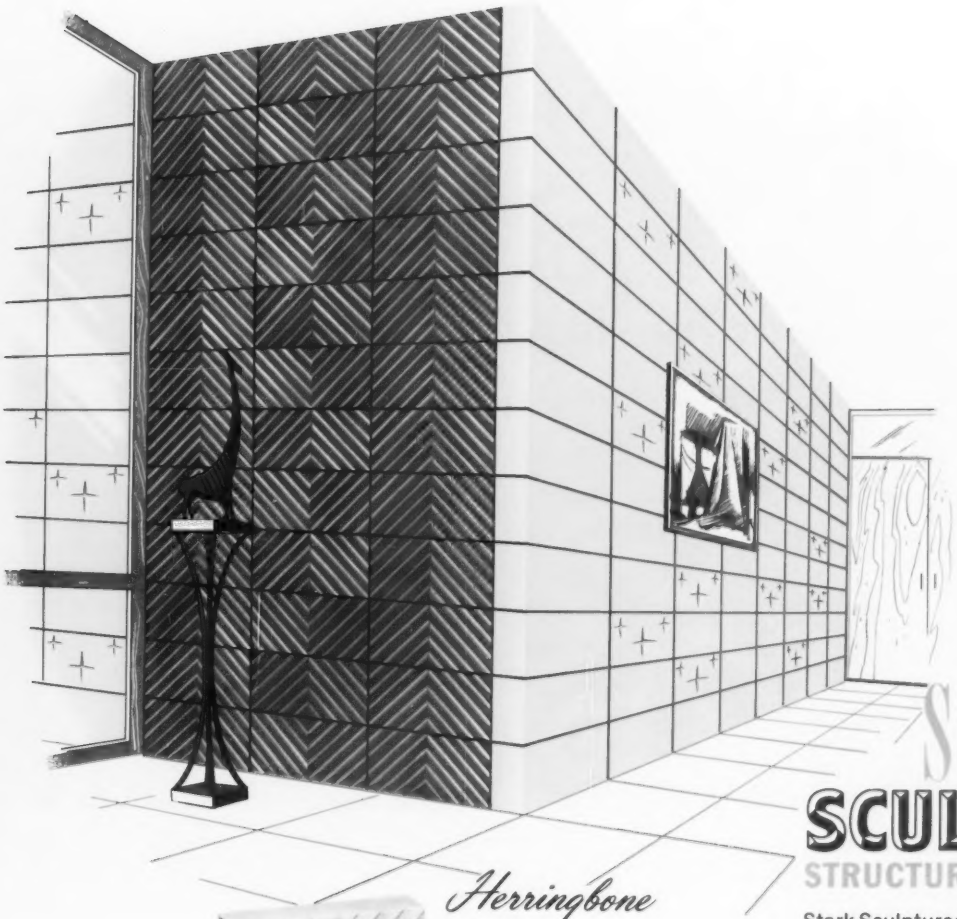

## INDIANA LIMESTONE SPANDREL DETAILS

**Office Building for**
**INTERNATIONAL MONETARY FUND**
**Washington, D. C.**

Architect: A. R. Clas, F.A.I.A.
Contractor: Charles H. Tompkins Company
Washington, D. C.

**INDIANA LIMESTONE COMPANY, INC.**
**BEDFORD, INDIANA**

ASK YOUR LOCAL STONE FABRICATOR OR INDIANA LIMESTONE COMPANY, INC. REPRESENTATIVE FOR ESTIMATES



# STARK SCULPTURED

## STRUCTURAL CERAMIC TILE

Stark Sculptured Structural Tile is a new addition to Stark's complete line of structural Glazed Tile. This new wall concept is a perfect combination of all the well-known qualities of Structural Glazed Tile and a series of versatile sculptured designs.

This unique product offers opportunities to create easy to clean walls with depth and dimension in an almost unlimited range of patterns and colors.

Unusual, custom walls are now within the range of every building budget . . . no other product offers ALL these essentials: initial economy, beauty, texture and pattern, permanent ceramic glazed finish, durability and low maintenance.

Write today for complete information or contact your local Stark Ceramics Distributor.

*Herringbone*

Versatile pattern that can be installed in various bonds to effect a wide range of overall patterns.

*Galaxy*

Deep-sculptured contemporary star forms. May be used as over-all motif or as decorative inserts.

*Louver*

Especially suited for feature stripes and panels, installed vertically or horizontally, running or stack bond.

*Classic*

Highly effective for large wall areas, particularly in institutional or monumental type architecture.

STARK CERAMICS, INC.
CANTON, OHIO

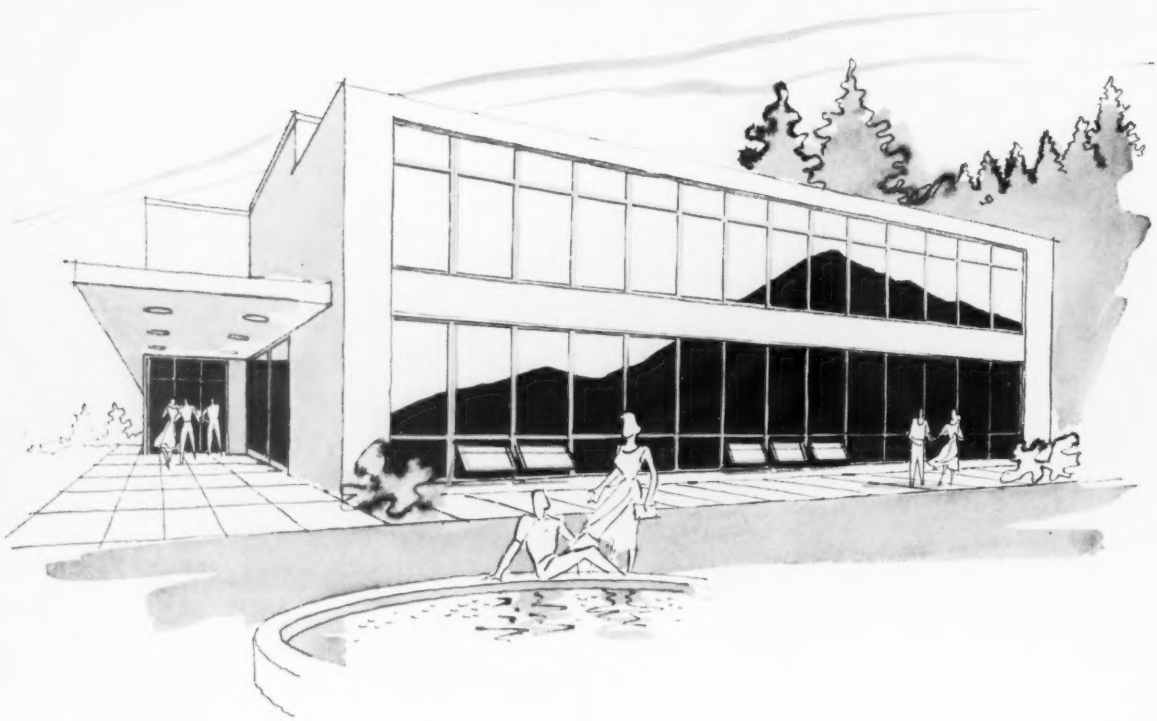
Pella

# mp windows

## massive fenestration for recreation building

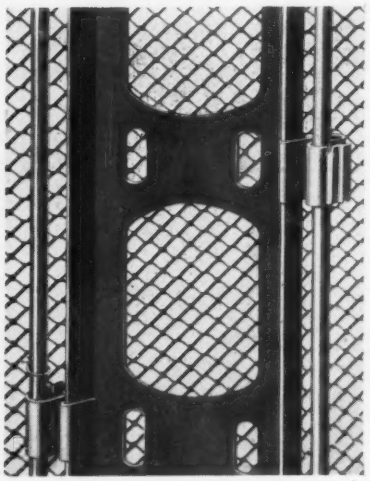
PELLA WOOD MULTI-PURPOSE WINDOWS adapt imaginatively to plans that call for extensive glass areas. In a full range of fixed and ventilating sizes, these pleasingly proportioned windows provide virtually limitless design possibilities. Used as fixed and awning vent combinations, MP WINDOWS function efficiently in a building that requires good natural ventilation. The next time you work on a municipal, commercial or residential project, let these quality wood windows help execute your best ideas. Consult your classified telephone directory for the name of the nearest U.S. or Canadian PELLA distributor.

ROLSCREEN COMPANY, Pella, Iowa



# HUSH CLIP Partition System

## *makes a fine building that much finer*



The *Hush-Clip* system can provide a sound-transmission-loss rating as high as 56.4 decibels!

Obviously, tenant comfort was a primary consideration in the design of 1919 Bay Drive Apartments, Miami Beach, Florida. Each of the 42 apartments has its own balcony and a living area glassed in from floor to ceiling. Other amenities: Swimming pool, lounge, garden area and private parking.

Privacy has been assured through the use of Penmetal's Hush-Clip Partition System. Here, lath and plaster "float" on resilient clips snapped onto hollow-metal studs. Room-to-room noise is significantly reduced . . . and shocks are isolated within the structure.

Corner beads of special zinc alloy were specified throughout. These were developed by Penn Metal Company for use in corrosive climates such as this.

Ask for copy of catalog 631-L, which details the Penmetal line of lath and plastering accessories.

**PENN METAL COMPANY, INC.**

*Metal Lath Sales Office:*
P.O. Box 1460, Parkersburg, W. Va.
AXminster 5-4521

*Executive Offices:* 40 Central Street, Boston 9, Mass.
*Plant:* Parkersburg, W. Va.

*District Sales Offices:* Boston, New York, Philadelphia, Pittsburgh, Chicago, Detroit, Dallas, Little Rock, Seattle, San Francisco, Los Angeles, Parkersburg, St. Louis

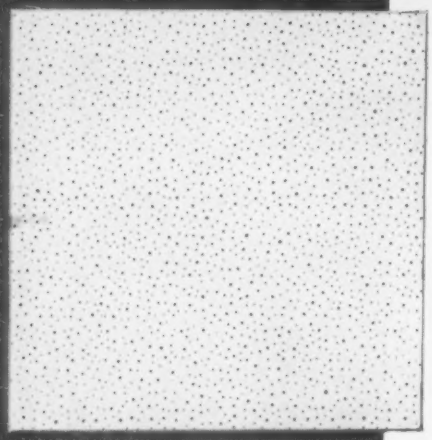
PM-236

METAL MARK Penmetal 1869 OF QUALITY

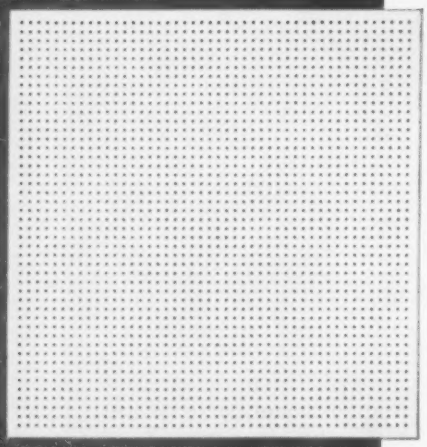
*a name to remember*

S. R. Joseph, *Architect;* W. C. Vladeck, *Architect;* E. Abraben, *Designer;* Escot Construction Corp., *General Contractors;* Woolf Plastering Company, Inc., *Plastering Contractors*

1



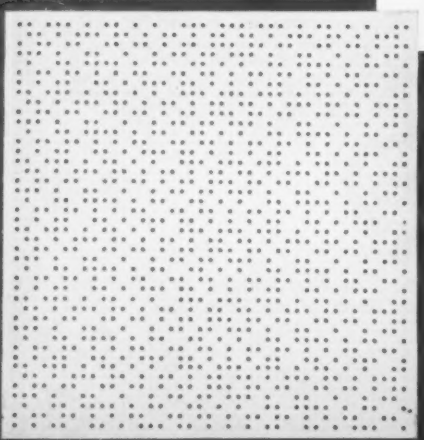
2



3

# VARIETY! DESIGN FREEDOM!

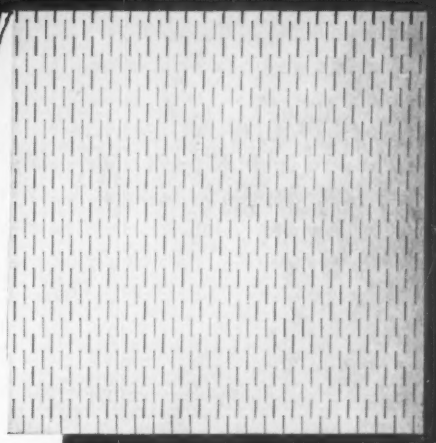
4



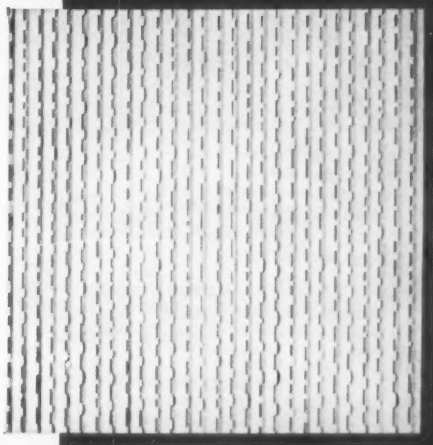
5

**ACOUSTI-CELOTEX "LAY-IN" PANELS for modern, multi-function ceiling systems.** This array of acoustical panels demonstrates the design freedom you enjoy when you specify lay-in "Ceilings by Celotex"... all the advantages of greatest variety in materials, patterns, sizes and system. Large size panels designed for fast, low-cost installation on suspension systems integrating elements for lighting, air conditioning and movable partitions. All illustrated products are incombustible.

Next time your project calls for the popular lay-in type of installation, call the franchised Acousti-Celotex distributor listed in your "Yellow Pages." As a member of the world's most experienced acoustical organization, he offers helpful counseling, demonstration, and installation service.



7



8

1. PERFORATED MINERAL FIBER TILE. Random Pattern. 2′ x 2′.

2. PERFORATED MINERAL FIBER TILE. Standard Pattern. 2′ x 2′.

3. CAVITY TILE*. Standard Pattern. Perforated gypsum base board; membrane backed. 2′ x 2′.

4. CAVITY TILE*. Random Pattern. Perforated gypsum base board; membrane backed. 2′ x 2′.

5. MUFFLETONE® MINERAL FIBER PANELS. Vinyl paint finish. 2′ x 2′ and 2′ x 4′.

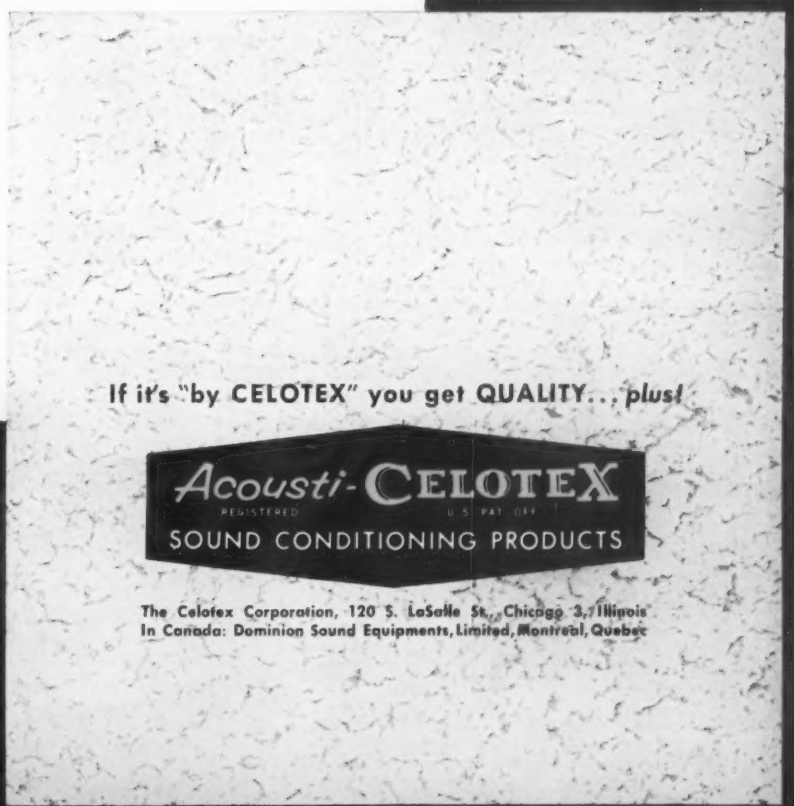
6. STRIATED MUFFLETONE® MINERAL FIBER PANELS. Vinyl paint finish. 2′ x 2′.

7. STEELACOUSTIC® STANDARD PATTERN PANELS. White or stria-colored. (Blue, green, brown) 2′ x 2′.

8. STEELACOUSTIC® RANDOM PATTERN PANELS. Aluminum or steel facing. 2′ x 2′ or 2′ x 4′.

9. SUPERACOUSTIC® SPUNGLASS FIBER PANELS. 2′ x 2′, 2′ x 4′, 4′ x 4′.

6



9

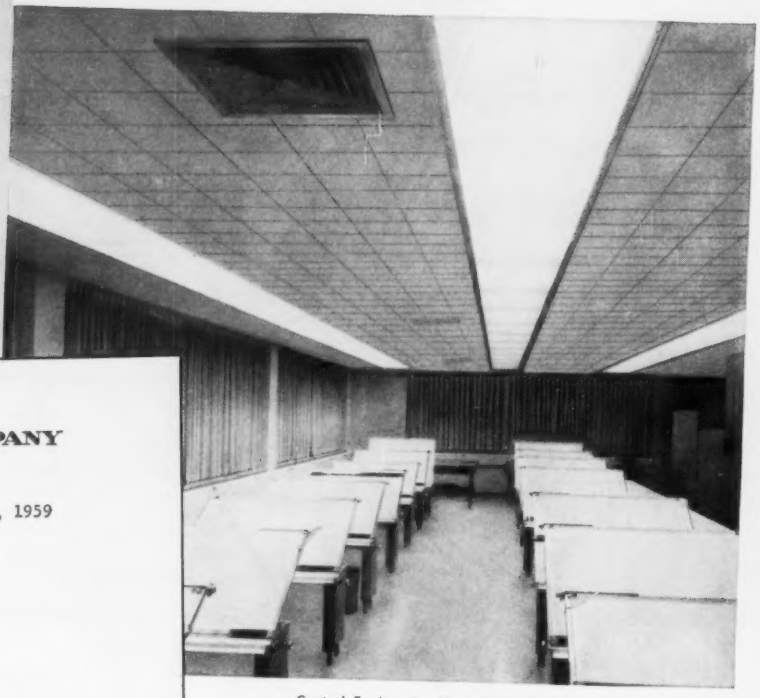
**If it's "by CELOTEX" you get QUALITY... *plus!***

Acousti-CELOTEX
REGISTERED U.S. PAT. OFF.
SOUND CONDITIONING PRODUCTS

The Celotex Corporation, 120 S. LaSalle St., Chicago 3, Illinois
In Canada: Dominion Sound Equipments, Limited, Montreal, Quebec

# "Holophane is to be congratulated..."

**ATLAS POWDER COMPANY expresses high satisfaction with their new lighting system. When Atlas designed the relighting of their Central Engineering Department, Holophane Specification No. 7559-C showed how to provide 170 foot-candles maintained illumination.**



Central Engineering Dept., Atlas Powder Company.
Installed by Hatzel and Buehler, Inc.

**ATLAS POWDER COMPANY**
WILMINGTON 99, DELAWARE

November 13, 1959

Mr. C. C. Keller
Holophane Company, Inc.
342 Madison Avenue
New York 17, New York

Dear Mr. Keller:

We have completed the installation of the Holophane Fluorescent Lighting System, designated as 6404-64, in our Central Engineering Department. The maintained illumination level is 170 foot candles.

The installation has proved very satisfactory from the visual comfort and the illumination level. The graceful styling lends itself beautifully to our surroundings with particular reference to the shallowness of the unit.

Holophane is to be congratulated in designing such a unit from the mechanical and electrical angle. With the ballasts mounted at far sides and opposite corners, it provides cooler and safer operation together with a better weight distribution with respect to installation.

The unit is constructed in such a manner that all parts are readily accessible from an installation and maintenance standpoint. It is our opinion that we cannot offer any constructive criticism or suggestion in order to make this a better unit.

Very truly yours,

ATLAS POWDER COMPANY

CENTRAL ENGINEERING DEPARTMENT
TECHNICAL SERV. SECTION

R. G. Rudrow

R. G. RUDROW, MANAGER
ELECTRICAL GROUP

RGR:ms

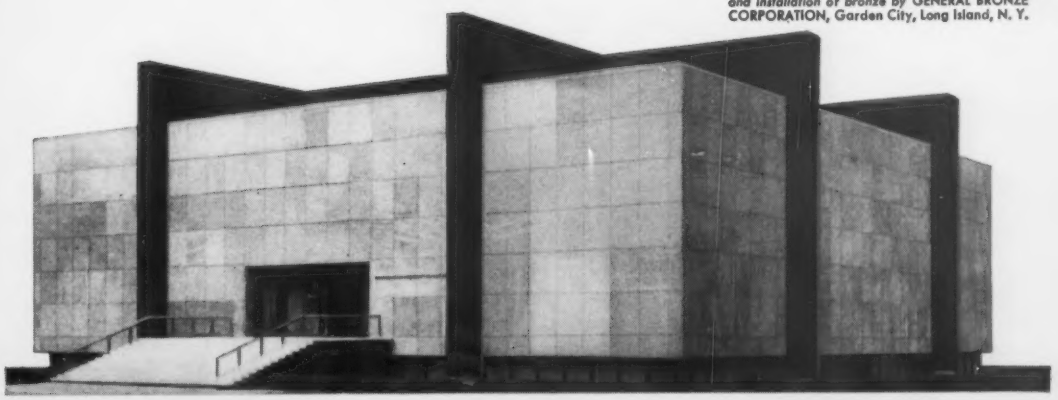
The entire Holophane organization—particularly the engineers and craftsmen responsible for the development of Holoflux units—is gratified to acknowledge the plaudits from Atlas Powder Company... Recognition of sincere endeavor spurs greater effort and further accomplishment.

**HOLOPHANE COMPANY, INC.**
*Lighting Authorities Since 1898*
**342 Madison Ave., New York 17, N. Y.**
THE HOLOPHANE CO., LTD., 418 KIPLING AVE. SO., TORONTO 18, ONT.

**HOLOFLUX®—Recessed 2 Foot Wide Luminaire, featuring PRISMALUME® *(Prismatic Acrylic Plastic)***

No. 6400—Holoflux with prismatic border; in four foot lengths or continuous runs... Distinctive design integrates with contemporary interiors... Prismatic construction provides highest utilization of light, minimum brightness.

*Architect:* PHILIP JOHNSON ASSOCIATES, New York, N. Y.. *General Contractor:* GEORGE A. FULLER COMPANY, Boston, Mass. *Fabrication and installation of bronze by* GENERAL BRONZE CORPORATION, Garden City, Long Island, N. Y.



# Designing for Beauty with BRONZE

## 80,000 lbs. of Revere Muntz Metal used in unique manner as metal "skin" in construction of MUNSON WILLIAMS PROCTOR INSTITUTE MUSEUM OF ART, Utica, N. Y.

Take imagination and mix with bronze and blocks of hammered gray granite and you have the unusual effect the architect, PHILIP JOHNSON obtained in completing the Munson Williams Proctor Institute Museum of Art.

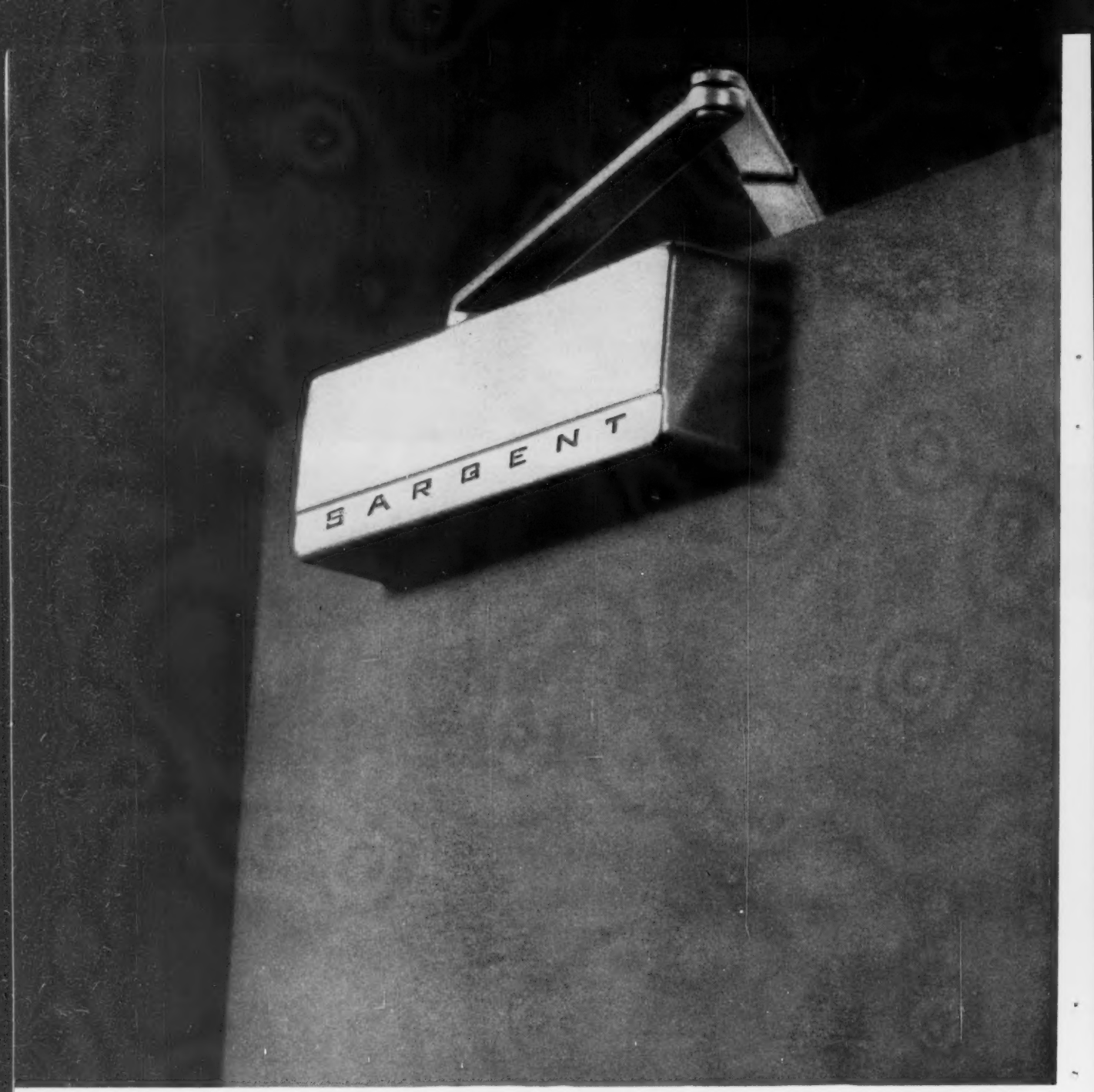
The original intention was to cover the exposed concrete girders and columns with hammered or sandblasted concrete. At this point, in collaboration with Revere, dark oxidized bronze was considered. The combination of stately bronze giving relief to the solid mass effect created by blocks of Canadian gray granite, machine hammered, shows what can be accomplished by an architect with imagination and an open mind, who seeks the one thing that will make his work stand apart from the ordinary.

This is still another example of how Revere works with architects, engineers, designers and contractors in creating such outstanding structures as the Seagram Building, N. Y.; and other famous landmarks. It is also another good reason why it will pay you to put this accumulated knowledge to work for you by seeking Revere's collaboration on your next project.

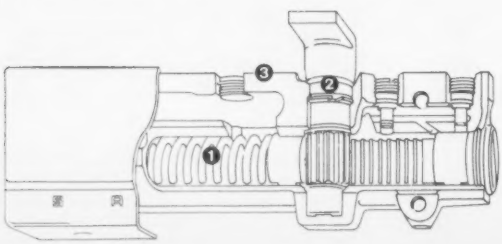
**INSTALLING THE BRONZE "SKIN"** over one of the cross members which run across the roof.

**UPRIGHT CONCRETE GIRDER** before covering with bronze "skin." The Revere Muntz Metal used was in thicknesses of 1/8" and 3/16", ranging up to 40" in width by 11' 11" in length.

**REVERE**
**COPPER AND BRASS INCORPORATED**
*Founded by Paul Revere in 1801*
**230 Park Avenue, New York 17, N. Y.**
*Mills: Rome, N. Y.; Baltimore, Md.; Chicago, and Clinton, Ill.; Detroit, Mich.; Los Angeles, Riverside, and Santa Ana, Calif.; New Bedford, Mass.; Brooklyn, N. Y.; Newport, Ark.; Ft. Calhoun, Neb. Sales Offices in Principal Cities.*
DISTRIBUTORS EVERYWHERE.




The only all new line of surface and concealed door closers. Size for size, Sargent's Powerglide Line does a bigger job better.* Meets or exceeds the Federal performance




***SARGENT POWERGLIDE LINE EXCLUSIVES**

1. heaviest spring in a rectangular closer . . . **works under less stress in longer chamber.**
2. bearing seats machined directly in closer body . . . **assures perfect alignment of needle bearings.**
3. extra thick iron case—and heavy-duty spindle . . . **provide added strength, longer life.**
4. two springs and double chamber for **greater checking capacity on larger sizes.**

specifications for conventional type. For all applications, all door sizes . . . exterior and interior. Call your Sargent supplier or write Sargent & Company, New Haven 9, Conn.

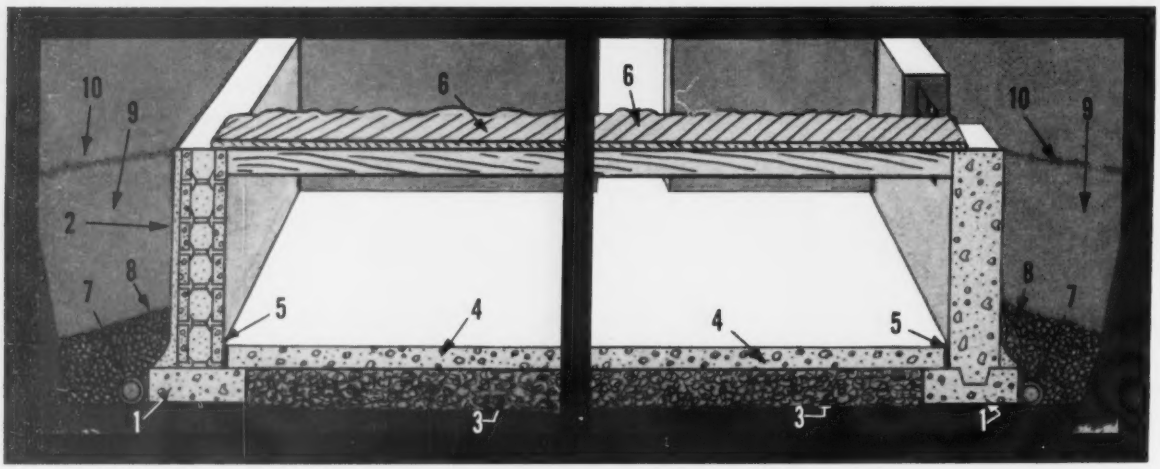
SARGENT™

The newest fashion in a complete line of architectural hardware

# LET'S GET BACK TO PROVED FUNDAMENTALS ON DRY BASEMENTS

There are hundreds of materials and methods offered for making dry basements – and yet thousands of basements continue to "go wet" within a few years after they are built. This fact proves that coatings of tars, asphalts, paints, and plastic and building paper sheetings all have limitations due to puncturing, peeling, drying out and deterioration. Getting back to fundamentals, it has been proved by over 50 years of use that you can get permanent water protection in every square inch of concrete, mortar or plaster coats by specifying any of these four Medusa Water Repellents.

*THE SOUND FUNDAMENTAL WAY TO MAKE BASEMENTS, WALLS AND FLOORS WATER REPELLENT*




1. Carry Medusa Water repellent cast-in-place concrete footings (at least 8" thick and 16" wide) to firm soil below frost line.
2. If your wall is built of concrete block, apply two ⅜" exterior plaster coats made with Medusa Waterproofed Portland Cement.
3. Compacted rock fill base.
4. Build a 4" thick concrete floor of Medusa Waterproofed Portland Cement.
5. Place suitable expansion joint between slab and foundation wall.
6. Build first floor before backfilling.
7. Place concrete drain tile beside base of footer, covering the tile joints with tar paper or metal covering and connect to a suitable outlet.
8. Place gravel fill over drain tile.
9. Place earth fill, free from debris, in even tamped layers over gravel.
10. Slope final grading away from wall.

*For complete details and specifications write for*
Medusa AIA file no. 3-A-10

**MEDUSA PORTLAND CEMENT COMPANY**

P. O. BOX 5668 • CLEVELAND 1, OHIO

also
MEDUSA
WATERPROOFING
PASTE AND
POWDER

# stainless steel

No other metal has the strength, beauty and versatile qualities that serve you so well today and promise so much for tomorrow.

**There is nothing like stainless steel for HOMES AND HOME PRODUCTS**

McLouth Steel Corporation,
Detroit 17, Michigan

*Manufacturers of high quality Stainless and Carbon Steels*

Look for the **STEELMARK** on the products you buy.

Stainless Steel

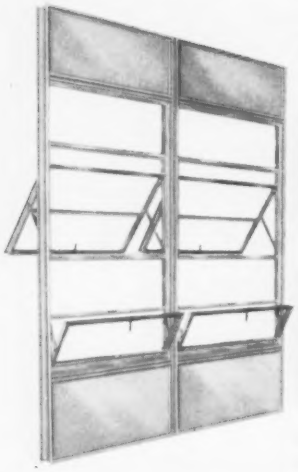
## McLOUTH STAINLESS STEEL

# lower BUILDING CONSTRUCTION COSTS—

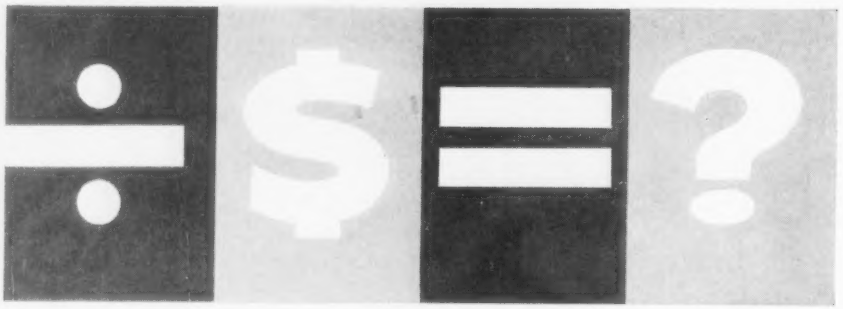
# What does that really mean?

In windows or curtain-walls, it's not just the initial price, but the ultimate over-all costs that must be considered. A quality product is a real economy, eliminating a multitude of hidden expenditures that can be avoided — from the design stage to years of satisfaction and minimum maintenance use. That's why — for lowest building costs — it pays to consult with Bayley and gain these benefits:

- **Ten pre-engineered Curtain-Wall designs, from which you can achieve individualized wall treatments.**
- **Experienced engineering cooperation with your building Designers to avoid drawing revisions and delays.**
- **Elimination of the need for expensive custom designing and fabrication.**
- **Designs that prevent leakage with scientifically positioned weeps and proved sealants in fabrication and erection.**
- **Provisions for masonry and structural variations, wind loads, and building contraction and expansion.**
- **Dependability of a recognized, financially responsible organization with complete manufacturing and erection facilities.**
- **Dealings with a company known for recognizing their client-responsibility from a building's inception to its occupancy.**



— and above all, ***A Quality Product!***




**If you seek lowest ultimate building construction cost, write or call. The nearest Bayley Representative will be glad to cooperate with you.**

# BAYLEY

## Windows and Curtain-Wall Systems

**The WILLIAM BAYLEY Co.**
**Springfield, Ohio**
*Agents in All Principal Cities*

SPRINGFIELD, OHIO
1200 WARDER ST.
FAirfax 5-7301

*District Sales Offices:*

NEW YORK 16, N. Y.
280 MADISON AVE.
MUrray Hill 5-6180

CHICAGO 2, ILL.
105 W. MADISON ST.
RAndolph 6-5997

WASHINGTON 5, D. C.
1426 "G" ST., N.W.
STerling 3-3175

ORIGINATORS • DESIGNERS • MANUFACTURERS • INSTALLERS

**WELDWOOD ACOUSTICAL DOOR.** For the first time, an effective low-cost, sound-retarding door with beautiful hardwood faces is practical for applications that could not justify the higher cost of earlier types.

*functional, durable, beautiful*

# FOR EVERY OPENING THERE'S A WELDWOOD DOOR

The complete line of Weldwood® doors gives you one-source convenience – and responsibility–for all your door needs. Interior, exterior, real wood faces, paint grade, acoustical, fire, Paniflex™ bifold–these are some of the doors available. Every Weldwood door is specifically designed and constructed for superior performance in its own applications. Any Weldwood door can now be ordered prefinished and machined for size and hardware.

**WELDWOOD DURAPLY® EXTERIOR PAINT GRADE DOOR.** Now, without priming, 2 coats of quality paint, properly applied, will last on a door up to 5 full years without blistering, peeling, checking. Resin-fiber overlay resists abrasion. The heartwood cedar used for the edges is one of the most durable woods for exterior use.

**WELDWOOD STAY-STRATE® DOOR.** Faces of beautiful hardwoods give a handsome exterior and match interior wood paneling. The fireproof, inert Weldrok® mineral core assures life-of-the-building performance. Ends costly door adjustments. Available in new sizes for ceiling-high installations.

**THE WELDWOOD DOOR GUARANTEE**

United States Plywood unconditionally guarantees Weldwood Stay-Strate, Acoustical, and Duraply Exterior Paint Grade doors against warping, twisting, or manufacturing defects for the life of the installation, when accorded treatment which is considered good practice as far as storage, installation, and maintenance are concerned. If any of these doors should fail to meet these standards, United States Plywood will replace it without charge, including labor costs of hanging and refinishing involved.

# WELDWOOD DOORS

MAIL THIS COUPON FOR FREE DATA BOOKLETS

**United States Plywood** **PA 9-60**
**55 West 44th Street, New York 36, N. Y.**

☐ Please have a Weldwood Architects' Service Representative call on me.

Please send me:

☐ "Weldwood Architectural Doors"—#2010. New 12-page booklet gives specifications, detailed drawings on the full line of Weldwood doors.

☐ "Functional Beauty For Business And Institutional Interiors." 28 pages of idea photographs show Weldwood paneling in offices, stores, institutions.

NAME.....

FIRM.....

ADDRESS.....

CITY.....ZONE.....STATE.....

# Weldwood teak paneling—such a beautiful way to build prestige

*Wood's wonderful warmth* says welcome to office guests. In Weldwood® paneling you choose from the world's largest collection of fine woods in panels that have been carefully matched for grain and color. This lobby in the Government Employees' Insurance Company, Chevy Chase, Maryland, is paneled in a handsome matched treatment of Weldwood Algoma-made Architectural teak. Architect: Vincent G. Kling, Philadelphia. All paneling in the building was installed by John A. Yohn Co., Ardmore.

*For this comfortable office*, architect Kling specified Weldwood Algoma-made Architectural cherry paneling. Beautiful woods in this luxury grade include walnut, oak, Benge®, birch, Korina®, as well as many others. Each is a sound investment in lifetime beauty and low maintenance.

*Confidence . . . permanence . . . stature . . .* Weldwood paneling in your office designs won't do it alone. But it helps. Beautiful walls like these build the right atmosphere for business—and they keep your client's maintenance costs low. You are invited to consult with a Weldwood Architects' Service Representative for help in planning a Weldwood paneling installation in your next building design. Mail the coupon on the reverse side of this page, or call the nearest United States Plywood branch.

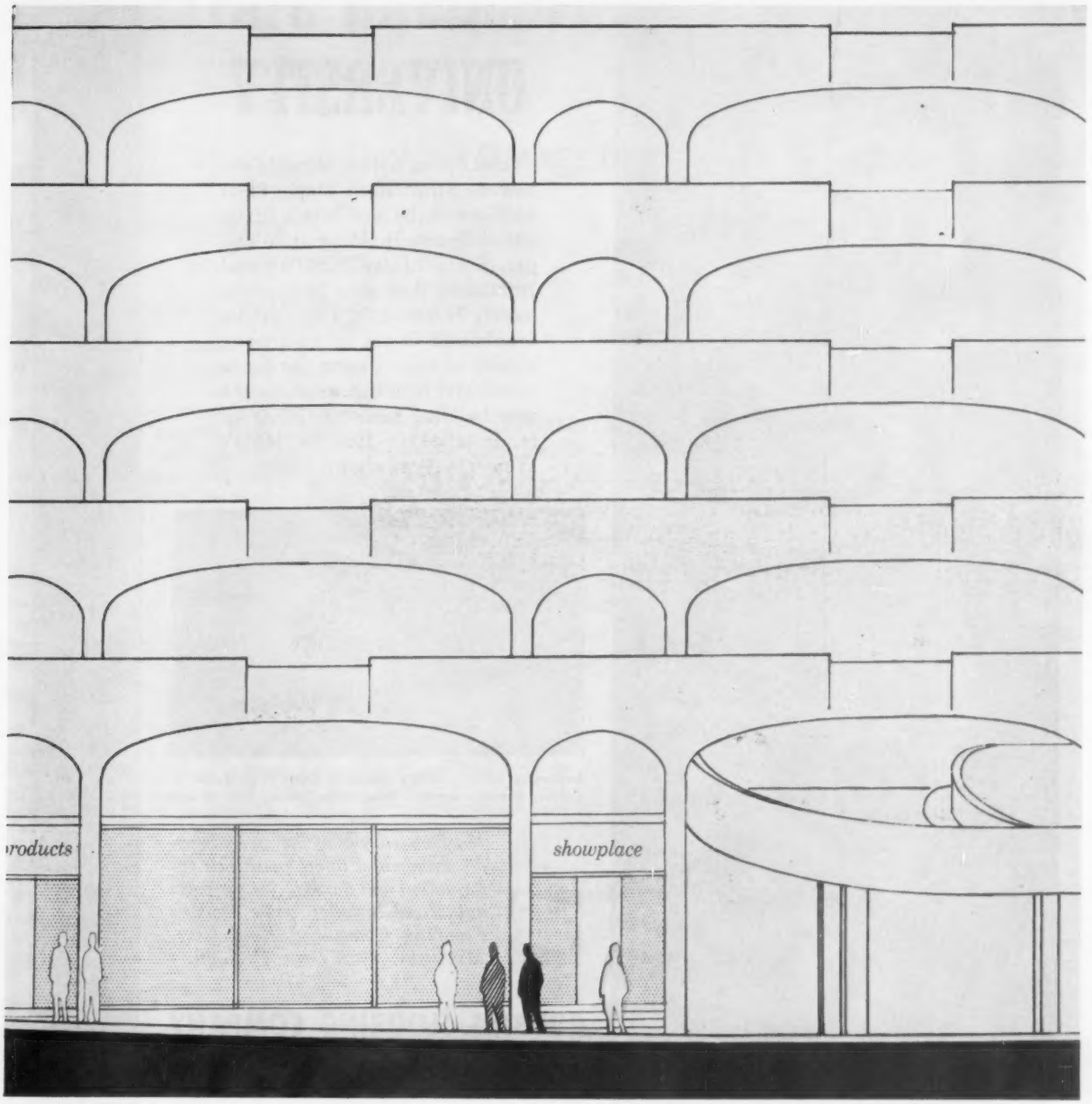
## WELDWOOD

REAL WOOD PANELING

*130 branch showrooms in the United States and Canada*
*In Canada: Weldwood Plywood, Ltd.*

# NEWS REPORT

*Architecture's Monthly News Digest of Buildings and Projects, Personalities, New Products*




*New Haven parking garage by Paul Rudolph will have two-block frontage, recall Roman walls and aqueducts.*


51 *MURUS RUDOLPHUS* FOR NEW HAVEN

54 WINNERS OF MASTIC TILE COMPETITION

57 TWO MAJOR MICHIGAN SCHOOL PROJECTS

69 WASHINGTON/FINANCIAL NEWS

83 PRODUCTS: LABORATORY FURNITURE

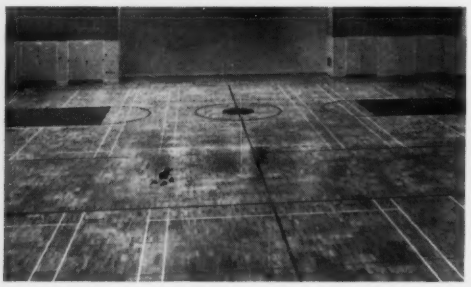
97 MANUFACTURERS' DATA

# 79,000 sq. ft.

## of smooth, resilient beauty for

# MICHIGAN STATE UNIVERSITY

**The 60,000 sq. ft. Ironbound* Continuous Strip* Hard Maple Floor** installed in the new Men's Intramural Sports Building at Michigan State brings MSU's total Ironbound floor area to approximately 79,000 sq. ft. This includes Ironbound floors in gymnastic areas, squash courts, exercise rooms and handball courts in the new building and the 19,000 sq. ft. installed in 1958 in MSU's Women's Gym, shown below.



Ironbound floor in MSU's Women's Gym. Arch: Ralph R. Calder, Detroit; Installer: Bauer-Foster Floors, Inc., Detroit

*May we tell you of the many benefits Ironbound offers you? For information and name of your nearest authorized installer, write Robbins Flooring Company, Reed City, Michigan, Attn: Dept. PA-960.*

SEE OUR CATALOG IN SWEET'S OR WRITE FOR COPY

## ROBBINS FLOORING COMPANY

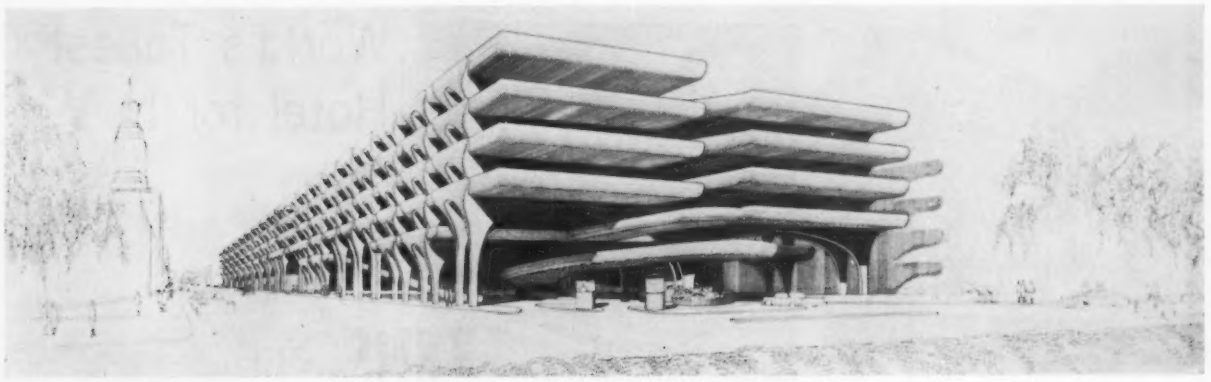
**Reed City and Ishpeming, Michigan**

Manufacturers of Ironbound* Continuous Strip* Maple Flooring, Perma-Cushion† Resilient Floor Systems and other hardwood flooring

*T.M. Reg. U.S. Pat. Off. †U.S. Pat. No. 2862255

Background photo is Ironbound floor in Men's Intramural Sports Building, Michigan State University, East Lansing, Mich. Arch: Lewis J. Sarvis, Battle Creek, Mich.; Installer: Bauer-Foster Floors, Inc., Detroit. Flooring Dri-Vac treated.

For more information, turn to Reader Service card, circle No. 300



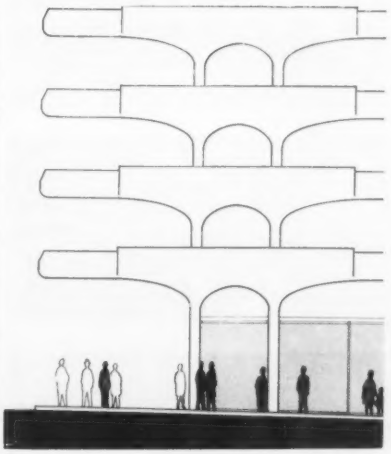
# Sensually Structured Parking Garage by Rudolph

## Design Sprang from Engineering Requirements

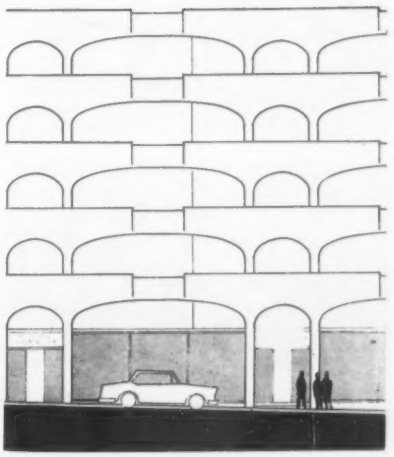
NEW HAVEN, CONN. A two-block-long parking garage which at least one observer has compared to a Roman wall has been announced for the City of New Haven. The garage, designed by Paul Rudolph, Chairman of Yale's Department of Architecture, will have a 1487-automobile capacity, plus 41,400 sq ft for shops and stores.

The structure will be bounded front and rear by Church Street and Temple Street, and at either end by Crown Street and North Frontage Street. George Street will penetrate the center of the building. Entrance and exit ramps will occur at either end, and on either side of George Street. There will be three entrance-exit ramps at each typical level. Levels will alternate back to front, providing ten parking areas above ground. Levels will measure 10 ft apart from top of slab at outside face of column to top of slab at the same point. Four elevators and three sets of stairs will provide for vertical circulation of patrons. Two underground parking levels will accommodate 378 cars. According to Rudolph, these basement levels will be connected with a hotel which will be built to the north of the garage.

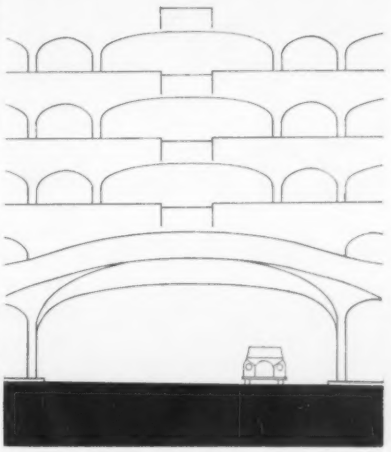
The ground floor will contain specialty shops and a department store, the latter to have a 2900 sq ft mezzanine at the second level. Storage space for these merchandising facilities will be included in the basement. Rudolph's plans indicate, but do not include, a shopping mall to bridge Crown Street at the third or fourth levels. The ground floor will be arcaded all along the Church Street and Temple Fronts in a series of alternating narrow and wide arches. The shops and department store will open off these arcades and have glazed show windows facing on to the streets.



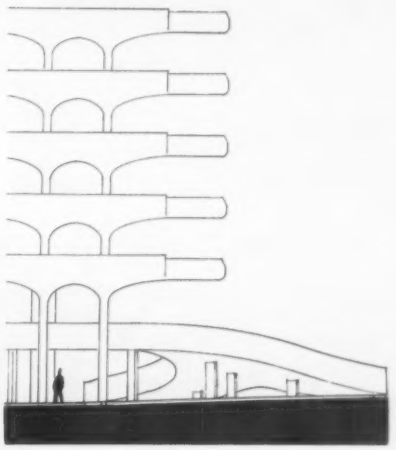
*Parking levels will project past columns at North Frontage Street end.*



*Shops and stores behind arched arcade will invite pedestrian trade.*



*George Street will penetrate building at midpoint, have garage ramps.*



*Entrance, exit ramps will extend out from Crown Street end.*

Asked about the structure of the garage, Rudolph stated: "The plasticity of the structure comes from the engineering requirements and forming of the concrete rather than the mechanical systems. In point of fact, the upper portions of the Garage are open, and not mechanically ventilated."

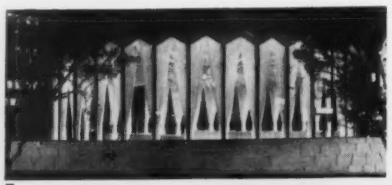
Structural engineer: Henry A. Pfisterer; mechanical engineer: Jerome F. Mueller; parking consultant: Wilbur Smith & Associates; design consultant: E. A. Barton & Associates.

1

2

3

4


5

6

7

8

9

## AISC'S FIRST ARCHITECTURAL AWARDS GIVEN

NEW YORK, N. Y. Thirteen winners of the first awards for architectural excellence in use of structural steel have been announced by the American Institute of Steel Construction, Inc., sponsor of the annual awards.

Award-winning buildings shown above are: 1 National Bank of Detroit by Albert Kahn Associated Architects & Engineers, Inc.; 2 Church of Our Saviour by Cochran, Stephenson & Wing, Baltimore; 3 Bartlett Mountain Retreat Cabin by David Thorne, Berkeley, Calif.; 4 The Southland Center by Welton Becket & Associates, Los Angeles; 5 American Trust Company Bank by Skidmore, Owings & Merrill, San Francisco; 6 Harvest House Hotel by Ralph D. Peterson & Associates, Denver; 7 Bloomington High School Gymnasium by Lundeen & Hilfinger with Schaeffer, Wilson & Evans, Bloomington, Ill.; 8 National Maritime Union Building by Ledner & Saputo, New Orleans; 9 Children's Hospital of Pittsburgh by Alfred D. Reid Associates, Pittsburgh. Not shown are St. Ann's Catholic Church by Martin & Lemmon, Andrews, Texas; Dudley High School Physical Education Building by Lowenstein-Atkinson, Greensboro, N.C.; and Red Bud High School Gymnasium by Clarence H. Glass, Decatur, Ga.

# World's Tallest Hotel for N. Y.

NEW YORK, N. Y. The *tallest* hotel in the world with the *largest* banquet and restaurant capacity of any hotel in the world has been announced for the West Side of New York by Loew's Theatres, Inc. Designed by Morris Lapidus, Kornblath, Harle & Liebman, creator of several of Miami Beach's most uninhibited hostelries, the hotel will have 50 stories—each of which "will be dedicated to one of the states of the Union."

The "Americana West" (an "Americana East," also by Lapidus, was announced recently) will rise on Seventh Avenue between West 52nd and West 53rd Streets. The 2000-room hotel will be faced with honey-colored, glazed brick and white Vermont marble, with window frames of stainless steel. A year-round swimming pool will occur at the 25th-floor setback. Public rooms at the lobby level will include two large restaurants, coffee shop, specialty restaurant, and bar. The upper level will contain a supper club. The grand ballroom and private dining rooms will be approached via their own entrance on 52nd Street. A 30,000 sq ft exhibition hall will be accessible from street level.

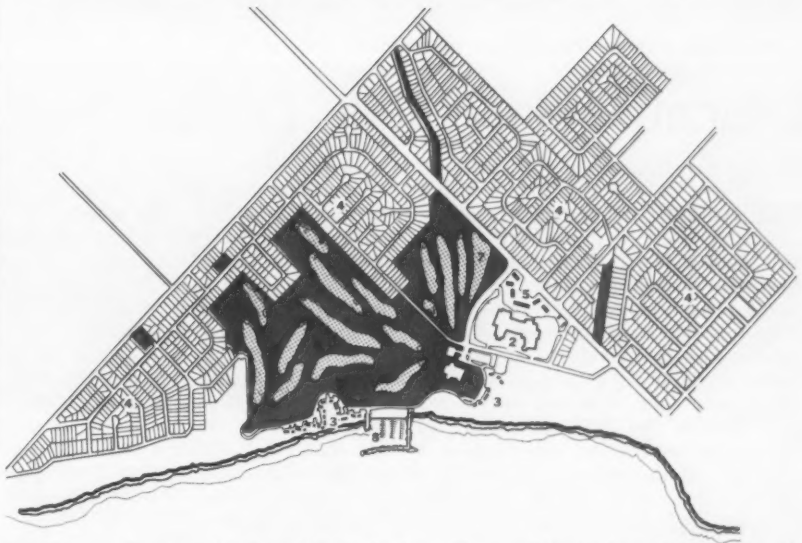
# Gruen Plans 2000-Acre Australian Community

## Country Club To Be Center Of Informal Community

MELBOURNE, AUSTRALIA Across Port Phillip Bay from this city, a complete new town designed by an American firm is scheduled to rise. Clifton Springs will be a residential, country-club community within 20-minute commuting distance of fast-growing Geelong, and an hour and twenty minutes from downtown Melbourne.

Victor Gruen Associates have created a community which will not only house hundreds of families, but also will provide week-end and vacation accommodations for visitors from Melbourne and other cities. Parks, beaches, tennis courts, bowling greens, swimming pools, marina, mineral springs pavilion and golfing facilities will all be at the disposal of the tourist as well as the resident. Family and social life is expected to center around a large, well-appointed country club overlooking the fairways on one side and the bay on the other. Within easy walking distance from the clubhouse grounds will be a commercial center *(above)* designed to serve all the needs of Clifton Springs except for durable hard goods available in Geelong. Included in this center will be a supermarket, clothing stores, drug store, services such as laundry and barber, a large variety store, specialty shops, and a garage-service station. Motel cottages for visitors will be grouped informally along the shore, some near the country club and a larger group hard by the mineral springs whence the town gets its name.

The architecture of the community will be relaxed and comfortable, featuring low, overhanging, clay tile roofs, masonry walls, collonades and courts, and natural landscaping.

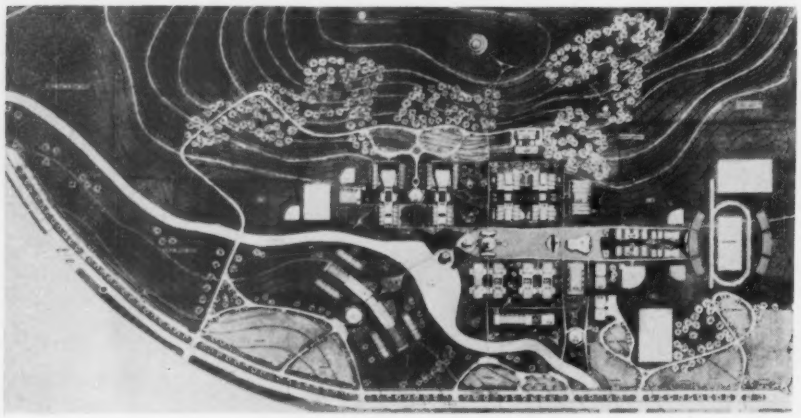


1 *clubhouse*, 2 *commerce*, 3 *motels*, 4 *single residences*, 5 *multiple residences*, 6 *golf course*, 7 *driving range*, 8 *marina*

*Motel cottages informally arranged.*

Photos: Gordon Sommers

*Aerial perspective shows commercial center at lower right with the country club and golf courses to its left.*



*Grand Prize winning design places information center at hub of plan.*

*Relationship and scale of buildings appealed to the Awards Jury.*

# Education-Recreation Center Theme of Competition

## Program Second to Explore Planning for Towns

VAILS GATE, N. Y. "The annual national architectural competition sponsored by the Mastic Tile Division of The Ruberoid Company is one of those too infrequent manifestations of the large corporation willing to spend a significant sum of money to explore and develop the building culture of the nation beyond the immediate consequence of the sale of the corporate product." So spoke Henry L. Kamphoefner, Dean of the School of Design at North Carolina State College, at the termination of his duties as Jury Chairman for the second annual Mastic Tile architectural competition.

The competitions are based on architectural design and planning of the American community. Last year, entrants were presented the problem of creating a middle-income housing development in the Mid-West near a large city (SEPTEMBER 1959 P/A, pp. 102-103). This year, under the theme "Education for Youth and Adult—And Recreation for All the Family," competitors were asked to design an educational (junior high school, high school, and college) and recreational complex to serve the community. Hypothetical site consisted of 295 wooded acres adjacent to the housing development which was the basis of the 1959 program. On the jury in addition to Dean Kamphoefner were Architects William W. Caudill, John Lyon Reid, and Eberle M. Smith, and Dr. Harry J. Carman, Dean Emeritus of Columbia College, New York. Architect A. Gordon Lorimer was Professional Advisor.

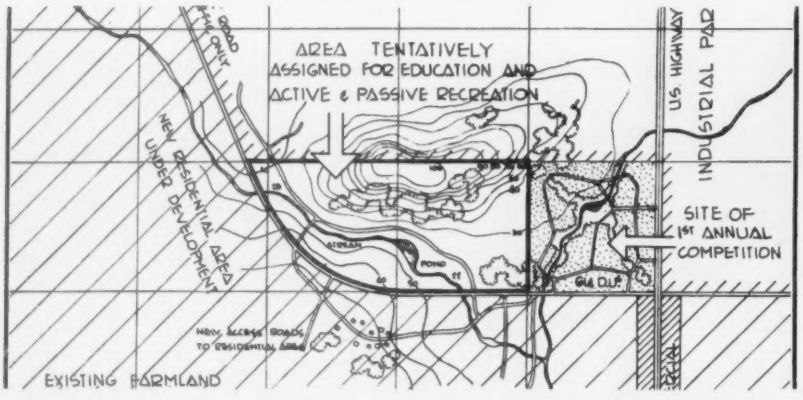
Grand Prize of $10,000 was won by Edward Colbert of McComb, Miss., and Alfred J. Petrilli of Detroit, Mich. Jury commended the entry on its planning, which placed an information center serving the community and the schools at the heart of the site, and attention to scientific aspects (entry included an atomic reactor).

The $5000 second prize went to Edwin F. Harris, Jr., of Raleigh, N.C. A large space module developed for the program and an interesting roof system for light and ventilation pleased the Jury.

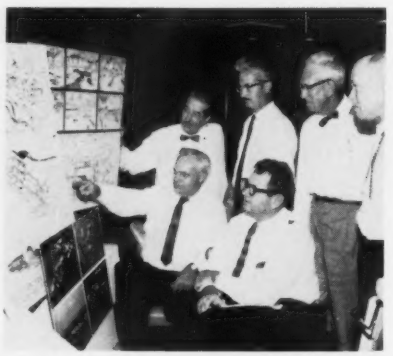
Marvin Hatami, New York, received the $2500 third prize for having one of the best de-centralized plans in the competition. Jury felt it was a superior architectural statement.

In the Student Group, the $2000 first prize was awarded to John Scarlata of Brooklyn's Pratt Institute. The Jury's attention was held by the good use of water; the planning of the cultural center; and the provision of views from all seminar rooms.

Juror Caudill stated that the competition gave a good picture of what the trends are in school design. Two things are evident, he said: "(1) Dr. Trump and his 40-20-40 system of educating high school and junior high school youngsters intrigues school designers. A very substantial number of entries were based on the Trump Plan. (2) If education or educators would not get in their way, a great number of designers would go the route of complete decentralized plans, as evidenced by the number of schools based on the decentralized concept.


AREA TENTATIVELY ASSIGNED FOR EDUCATION AND ACTIVE & PASSIVE RECREATION
U.S. HIGHWAY
INDUSTRIAL PARK
SITE OF 1ST ANNUAL COMPETITION
NEW RESIDENTIAL AREA UNDER DEVELOPMENT
EXISTING FARMLAND

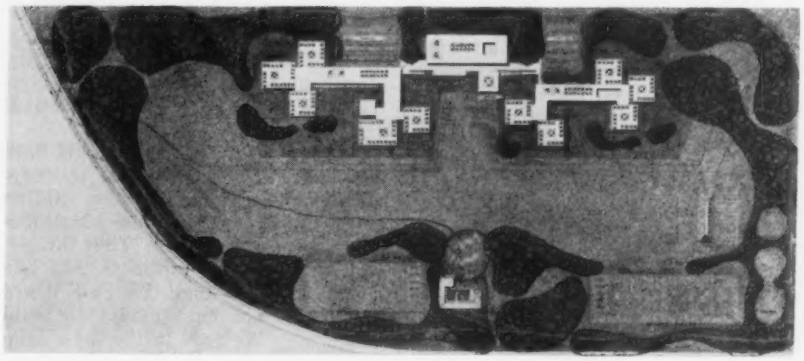
*Basic site plan showed wooded 295 acres crossed by a stream.*



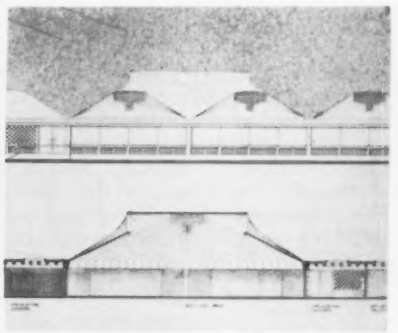
*Standing: Lorimer, Kamphoefner, Carman, Reid; seated: Smith, Caudill.*

Apparently designers are attempting to humanize school plants in the best way they know how—by breaking up the big piece into little pieces." "The emphasis on the community use of the educational facilities points to a recognition of the urgent problem of every community in making maximum use of available facilities for the benefit and enjoyment of the community," according to John Lyon Reid. Dean Carman said: "We are a pragmatic, materialistic people and as a consequence some of us are willing to sacrifice that which is esthetically beautiful as well as practical for the sake of cutting costs. This Program stressing . . . the quality of excellence can . . . contribute to . . . esthetic aspects of American life."

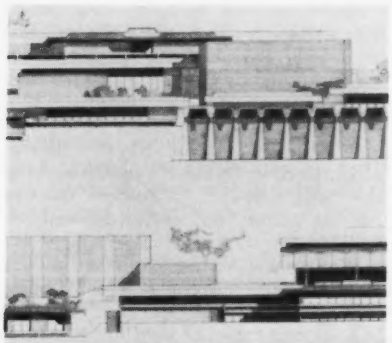
Professional Merit Awards of $500 each were won by Peter Tarapata and Charles MacMahon, Jr., of Bloomfield Hills, Mich.; John V. Sheoris of Grosse Point, Mich.; Israel Stein and Robert F. Lindsey of Houston; Richard Saul Wurman and Alan Levy of Philadelphia; J. Byers Hays, Harry J. Roberts, Joseph A. Poch, and H. David Howe of Cleveland; and John V. McPherson, Jack H. Swing, Robert L. Amico, and George Albers of Homewood, Ill. Professional Certificates of Achievement went to Ralph Lewis Knowles of the Department of Architecture at Auburn University; George Colvin and William B. Little of Charlotte, N.C.; and George B. Hagge, Chih-Chen Jen, Hanford Yang, and Heinz Zobel of University City, Glendale, St. Louis, and Affton, Mo., respectively. Second prize in the Student Group was won by Richard M. Foose of Columbia University; and Pratt Institute scored again with Richard C. Marcantonio's third prize. Student Merit Awards were given to Fredric E. Melby of the University of Minnesota, Minoru Takeyama and Ozdemir Erginsav of Harvard Graduate School of Design, John M. Ellis of Massachusetts Institute of Technology, and James S. Daley of Oklahoma State University.



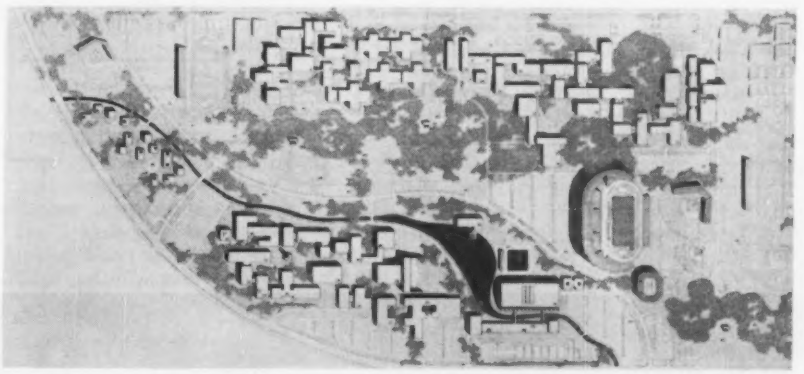
*Accent of second prize winner was on planning within large space module.*



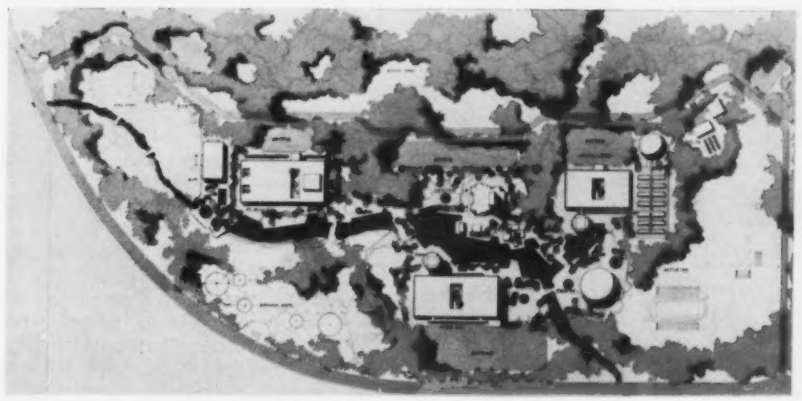
*Ingenious roof system contains lighting and ventilating elements.*



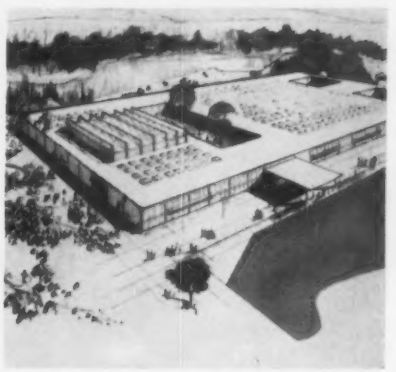
*Architecture of third prize winner earned Jury's commendation.*



*Decentralized site planning distinguished third prize winner.*

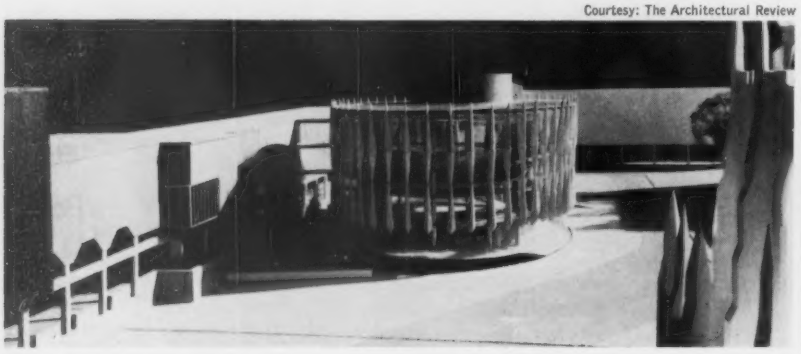


*Jury found first prize winner in student group commendable for use of water.*



*Double-decking of seminar rooms gave each a view of water and woods.*

Courtesy: The Architectural Review

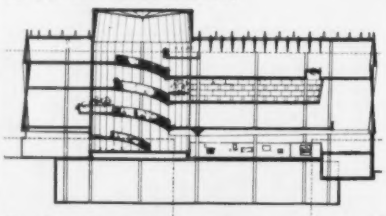


# LIBRARY TO REFLECT CATHEDRAL RUINS

## Project Latest in City's Redevelopment

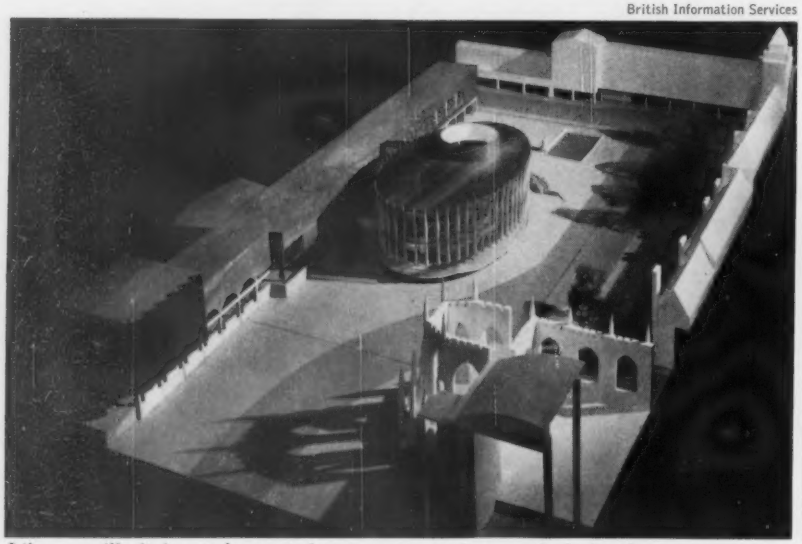
COVENTRY, ENGLAND One of those almost unheard-of phenomena, excellent architecture by a civic employe, may be seen in the projected Central Library for Coventry by City Architect Arthur G. Ling. The library continues the generally high level of design and planning which have characterized the rebuilding of this city—most of it, excluding the new cathedral, by the city architect's office.

The library will be an elliptical structure projecting into a new square, across which readers and librarians will be able to view the ruins of the old, bombed-out Coventry Cathedral, and, through them, the new Cathedral. The building will stand on its own paved and patterned plaza, connected only by a slim link to the new city art gallery (which will contain some offices and lecture halls for use with the library). The other two sides of the square will be closed by a late Victorian, neo-Jacobean Council House at one end, and a four-story building housing city council offices (including Mr. Ling's) at the other. Exterior of the library will be glass with aluminum mullions which will project above roof level and echo the finials of the Cathedral ruins across the square. An open well will penetrate the building, allowing the visitor to be conscious of the entire building on entering Basement will include the main book stack, a news room, three meeting rooms, and a 400-seat lecture room. The ground floor will house the quick-reference department, an exhibition hall, and a two-level children's reading room. The main lending library will be on the second floor.



*Section shows library services arranged around ramped well in center.*

British Information Services



*Library will sit in newly-created square across from cathedral ruins.*

# CHIEF OF DESIGN DISCUSSES FAIR

"We must approach this problem positively and with hope to get the best results; you [the press] can help us in this direction." "The Fair can represent a wonderful opportunity for industry to make a major statement, an important contribution to design . . . if they can get together." "If we have a no-holds-barred Fair, in the design sense, it might attract some exciting new designs and perhaps some exciting new designers, such as the young Scandinavians."

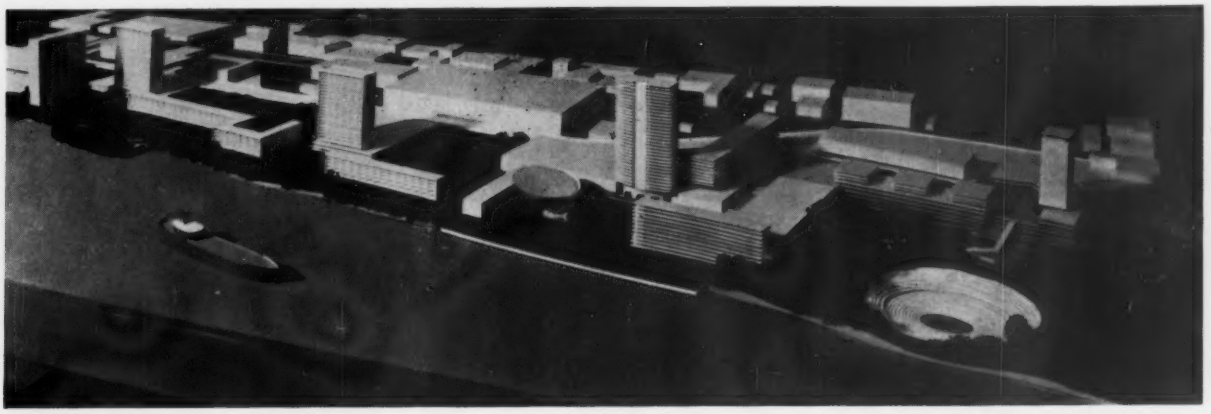
Sitting over lunch in New York's Swiss Pavilion restaurant (itself a vestige of the 1939-40 World's Fair), Wallace K. Harrison, Chairman of the Board of Design for the 1964-65 New York World's Fair, discussed with P/A plans for the event.

Asked whether the Fair would have a "theme" structure such as the Trylon and Perisphere, Harrison said he certainly hopes not. "Those structures are usually meaningless. That thing—the Atomium—in Brussels was terrible." He said that the Fair board itself does not have money to build buildings. "We have just about enough to prepare the grounds and create some new pools."

Harrison said that, at this point, indications are that the Fair will not be unified in the design sense. This was proposed by the design board, but turned down by the administrative and executive branch under Fair President Robert Moses. Shortly thereafter, Gordon Bunshaft resigned from the design board. "I respect Gordon for his action, but certainly wish he had stayed with us."

What has been accomplished at the Fair so far? "Right now, our basic plan for allotment of land between the various types of exhibits has been accepted and Fair representatives are contacting potential exhibitors in this country and abroad." The closest thing to a main building probably will be the U. S. Federal Building, which will be sited on axis with a large, circular pool some distance away in the industrial exhibit area. This building will have the additional duty of screening the permanent New York City Building, an eyesore. Surrounding the U. S. building will be state and foreign buildings, and a "Tivoli-like area" is planned around the amphitheater on Meadow Lake.

"This can be a terrific propaganda vehicle—not only for us, but also for all other countries that participate," Harrison concluded. "I hope we can have a good Fair, and I am going to stick with it in that hope."

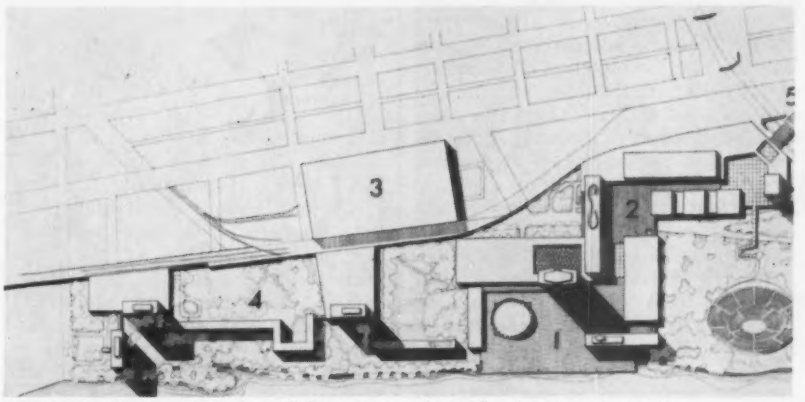


# Detroit Firm Plans Two Michigan School Projects

## Detroit's Civic Center, Dearborn Are Sites

DETROIT, MICH. Designs for a large-scale riverfront development for the Detroit Institute of Technology near this city's redeveloped civic-convention center and a junior college in Dearborn are now on the boards of Eberle M. Smith Associates, Inc.

Prime objective in the design of the Detroit Institute of Technology Riverfront Development (*above*) was to provide a technical campus in mid-city which will be as spacious and cloistered from its surroundings as possible. With this in mind, educational and research buildings will be screened from the neighboring convention center and the adjacent expressway by commercial and recreational areas. Both public and campus housing will be provided, each oriented for maximum light and view. A hotel will serve visitors to the Institute and the convention center. An amphitheater planned for the campus will be used for summer musical performances.

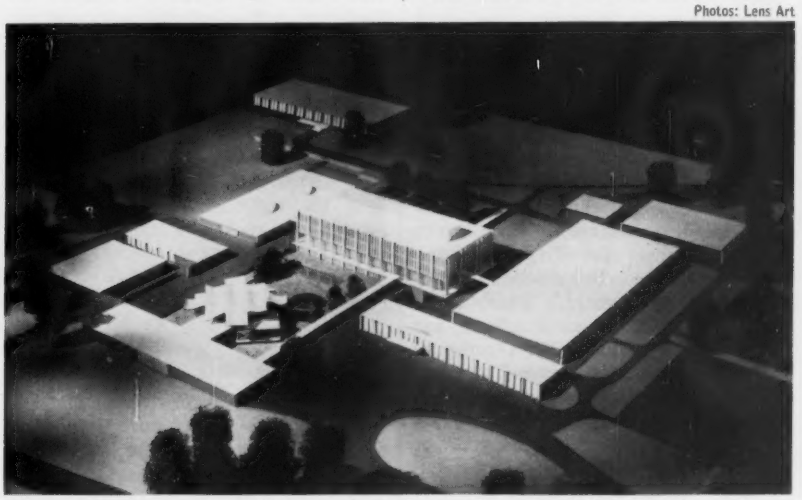



1 *Institute,* 2 *commerce,* 3 *mail department,* 4 *residential,* 5 *train station*

The entire redevelopment, which will complete Detroit's riverfront plan, will replace unsightly railroad yards.

The Dearborn project, Henry Ford Community College, will be located on the late automobile magnate's "Fairlane" estate adjoining the Dearborn Center Campus of the University of Michigan. The junior college will have a student enrollment of 2600 full-time and 9300 part-time students. The nine major buildings presently planned include liberal arts and library building, science building, technical building, technical laboratory building, fine arts building, music building, administration and student center building, and physical education building. All but the latter will be grouped around a central sunken court.

Photos: Lens Art



*Henry Ford Community College is planned around a central, landscaped courtyard.*

*Library-liberal arts building faces student center across court.*

*Student Center, attached to administrative wing, sports jaunty roof.*

# PERSONALITIES

The architect and planner providing for 20th-Century man "needs the ardent passion of a lover and the humble willingness to collaborate with others, for, great as he may be, he cannot do it alone." In this quote from **Dr. Walter Gropius'** talk at the 1955 P/A Design Awards Banquet is contained the philosophy of collaboration and mutual respect for his peers which guided him through the creation of the Bauhaus, the years as head of Harvard's Graduate School of Design Department of Architecture, and the founding and successful operation of The Architects Collaborative. Most recent honors for this much-honored man include last year's long-overdue Gold Medal from AIA, his being made Honorary Life Member of The International House of Japan in Tokyo and a Benjamin Franklin Fellow of the Royal Society of Arts in London, and the German Grand State Prize for Architecture. The text of the latter award, presented to him by Dr. Meyers, Minister President of Rhineland Westphalen, at the Academy of Arts in Dusseldorf, read, "Walter Gropius performed at the beginning of the century pioneer work basic for the new architecture. The comprehensive community of the Fine and Applied Arts united by him in the Bauhaus has set an example of how to renew the integration of all design. It has exerted his influence to the present day. His architectural work, his thoughts, and his teachings have been effective and have found acceptance throughout the world reilluminating the German sphere through his personal participation, counsel and advice." Returning from Germany, Gropius stopped in London to advise entrepreneur Jack Cotton on two projects: the Piccadilly Circus building and a civic center in Birmingham. Cotton heads a British group investing in New York's Grand Central City project, for which Gropius is consulting architect with Pietro Belluschi.

EERO SAARINEN will design his first skyscraper for Columbia Broadcasting System in New York; structure will be on Avenue of the Americas between 52nd and 53rd Streets, two blocks north of RCA Building, home of National Broadcasting Company.

Architect HARMON H. GOLDSTONE is new president of New York's Municipal Arts Society; treasurer is EDWARD LARRABEE BARNES, and P/A Managing Editor CHARLES MAGRUDER is secretary . . . . Same society gave an award to Violinist ISAAC STERN for his leadership in the successful fight to save Carnegie Hall . . . . JOHN LOUIS WILSON was re-elected as president of Council for the Advancement of the Negro in Architecture.

Effective the 15th of last month, **James Johnson Sweeney** resigned as director of the Solomon R. Guggenheim Museum. In a letter to Harry F. Guggenheim, president of the museum Board, Sweeney said, "In view of the difference between the ideals held by the Board of Trustees with reference to the aid and use of the museum and my own ideals, which I feel I have a responsibility to follow, I herewith submit my resignation." Brooklyn-born, Irish-descended Sweeney (he is a Fellow of the Royal Society of Antiquaries of Ireland; named his children, Ann, Séan, Siadhal, Tadhg, and Ciannait) has stood up for his convictions before. He resigned as Director of Painting and Sculpture of the Museum of Modern Art in 1946 when the museum wanted him to go along on a curatorial program with which he did not agree. Trouble at the Guggenheim has undoubtedly been brewing ever since Wright's designs for the building were first revealed (Sweeney changed a number of Wright's plans, notably the lighting, mounting of the pictures, and interior wall color). The immense popular success of the museum since its reopening in the new building has evidently persuaded the Board to consider a program directed at a less-informed viewer than heretofore. In a release on the acceptance of Sweeney's resignation, Guggenheim stated that ". . . the trustees believe the time has come to develop a series of activities that will be interesting, informative and educational to an ever-widening number of art lovers and will attract for display at the museum notable collections of art throughout the world." This is an attitude against which Sweeney has written in *Daedalus*, ". . . museum trustees or perhaps even museum directors are ambitious to embrace the broadest possible public and, in our democratic age, have not the courage to face the fact that the highest experiences of art are only for the elite who 'have earned in order to possess.'"

No immediate plans have been announced by Sweeney, but his time will undoubtedly be well taken up by his work on at least 15 art or educational boards, lecturing, and writing. His successor has not been appointed at this writing.

Dismal note department: "We are prepared to build anywhere and everywhere. Our only requirements are substantial demand, available land and the opportunity to make money," says Levittown perpetrator WILLIAM J. LEVITT.

Major problem confronting **Rockwell King DuMoulin** this fall is probably which hat to wear next, for, in addition to being a practicing architect and a devoted teacher, he is also Head of the Department of Architecture, acting Chairman of the Division of Architecture, and acting Head of the Department of Interior Architecture at Rhode Island School of Design. Furious activity seems to be taken with a great deal of *sang froid* by DuMoulin, however—in the twelve years between 1943 and 1955, he represented the United States or the United Nations in design and planning capacities in about 40 countries in Europe, Asia, Africa, and North and South America. These assignments included such posts as directing the UN program for Public Works Rehabilitation in Yugoslavia, City Planner and UNRRA Capital Liaison Officer in China, and overseeing the Point 4 Program of Technical Aid in Architecture throughout Latin America. Retired to the comparative peace of private practice and teaching in Rhode Island since 1955, he says the family summers "in one of those wonderful 'Cottages' built in the Maybeck manner 50 years ago, on the side of a hill overlooking fields and the ocean. A super-highway is heading right for the view from the cantilevered wood deck." In winter, the lucky DuMoulins live on Providence's College Hill in the servant's quarters of the Candice Allen House, designed by John Holden Green, c. 1818. Pretty soon, architecture will have a new DuMoulin; "Rocky's" younger son is entering Columbia Architectural School this semester.

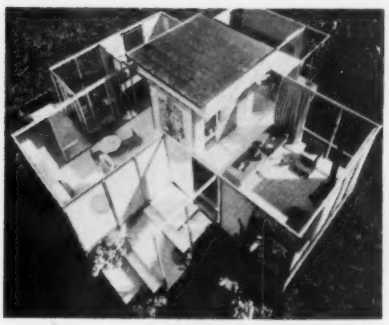
Sketches by Romaine Corbellini

## Use of Copper in Roof Merits Award

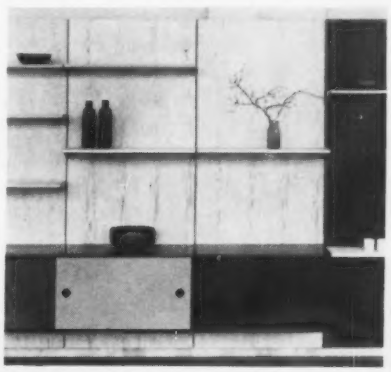
Architect A. G. Odell, Jr., won special citation in competition held by the Copper and Brass Research Association for his "distinctive creative application of copper in the design of Concordia Evangelical Lutheran Church" (DECEMBER 1959 P/A, pp. 128-133). Commenting on design, Mr. Odell said, "It was my opinion that the only suitable roof covering for the sanctuary was copper. The anticipated blue-green patina was a primary consideration, and the batten seams were designed to give variety and texture to the large expanse of roof." Annual competition honors outstanding new use, application, or metallurgical development of copper, brass, or bronze.

## "HOME AND SCHOOL" THEME OF TRIENNALE

The 12th Milan Triennale, which opened in July and will continue through November 4, has not exactly



aroused the acclaim of the multitudes. Departing from previous tri-annual expositions, which had as their *raison d'être* advances in architectural and industrial design, this one announced a theme: "Home and School." Admittedly, several of the most interesting exhibits were beyond this pale (notably the Frank Lloyd Wright retrospective mounted by Paul Grotz and Walter McQuade, and the exhibit in honor of the late Adriano Olivetti). But, according to reports, the general effect of the whole exhibition is diffuse and unrewarding. Main buildings are a complete school from Great Britain, by Rex Goodwin, and a U. S. house done for Alcoa by Designer John I. Matthias of California (*shown*). U. S. Government agencies repeated their past history of disinterest in U. S. participation in this international design showcase, and it was once again the task of Walter Dorwin Teague to save our face by encouraging private and governmental enthusiasm (in 1957, with desperate last-minute activity, he and Paul McCobb managed to get us in with the award-winning Fuller dome display). Thanks to Teague, Alcoa, and the Wright exhibit, we are represented this year. It might not be too soon for the State Department to start thinking about the 13th Triennale. A direct report on the show has just come in from Professor John C. Grace (on European leave from Tulane University); watch for it in VIEWS in OCTOBER P/A.



## Exhibition to Highlight Design from Denmark

To open its autumn exhibition season, New York's Metropolitan Museum of Art will have royalty in attendance. King Frederick IX and Queen Ingrid will preside at the opening of "Arts in Denmark," an exhibition of Danish architecture, arts, and crafts, on October 15. The show, designed by leading Danish Architect Finn Juhl will run through January 8, 1961. Opening of the show will be the climax of a series of "Denmark in the U. S. A." events planned during the state visit of the King and Queen to this country October 4-17. Shown is an example of Architect Juhl's furniture design.

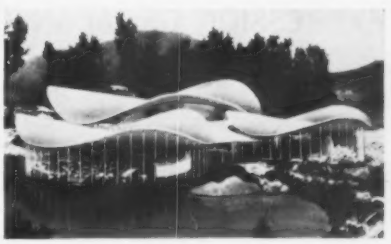
## Tube-Tower Center of Student Exhibition

An interesting structure utilizing 18 in. diameter cardboard tubes was designed by Rhode Island School of Design students as housing for a large sculpture (also student-designed) in the recent exhibition of student work at RISD. The 25-ft-high structure is of six double columns forming a hexagon. Central ring was built on the ground, then hoisted into place around a staging tower. Columns were bolted together on the ground, then raised and bolted into place to support the dome. Columns were connected to

a wooden frame extending four feet into the ground for protection against high winds. For weather-proofing, the tubes were treated with a mixture of waterglas and paint. For news of RISD's Rockwell K. DuMoulin, see page 58.

## Wavy Restaurant Will Palpitate over Lake

Restaurant for Sterling Forest Gardens, Tuxedo, N.Y., is described by Arthur Wagner Associates, designer, as having "highly organic forms" to "retain a relationship with the natural and organic forms of flower and plant inherent in the garden's site." Structure will be in three open pavil-



ions: main dining room, cocktail lounge, and kitchen. A central entrance lobby will give access to the three. To provide open plan, most duct and electrical work will be in the floor. Restaurant will have views of a lake and the gardens.

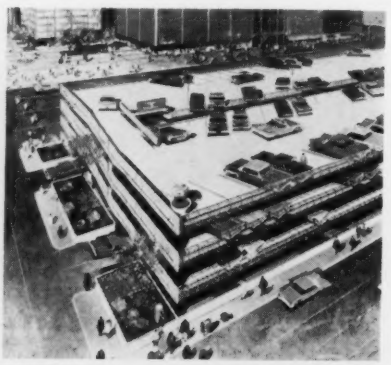
## Institute for Crippled and Disabled Building Proposed

Sherwood, Mills & Smith, architects of the Stamford, Conn., Rehabilitation Center for the Institute for the Crippled and Disabled, have designed

a New York building for the Institute which will house administrative offices, general workshops, and an auditorium. In addition to administration, the building will be used to instruct professionals in the rehabilitation of the disabled, and for the treatment and training of the handicapped. The six-story building will be faced with precast concrete on the street front; other three sides will be glazed face brick. Ground floor doors will be fully automatic and treadle operated for convenience of visitors using crutches or wheel chairs. Partners-in-charge Thorne Sherwood and Carrell S. McNulty, Jr., state that the lobby will be enhanced by a relief mural or large sculpture. Mechanical engineer: Bernard F. Greene; structural engineer: Werner-Jensen & Korst.

## Contini Designs Prefab Parking Structure

A self-parking structure which can be mass produced in three basic elements off the job site and rapidly erected in multiple combinations has been announced by Tishman Research Corporation. "Tierpark," designed by Engineer Edgardo Contini, has as its three primary components the typical prestressed, precast concrete slab, slanting down- and up-slabs, and tapered columns to support both typical slabs and ramp slabs. Secondary elements such as railings, lighting, and decorative panels may be custom designed for specific projects. First Tierpark installation is at Hempstead,



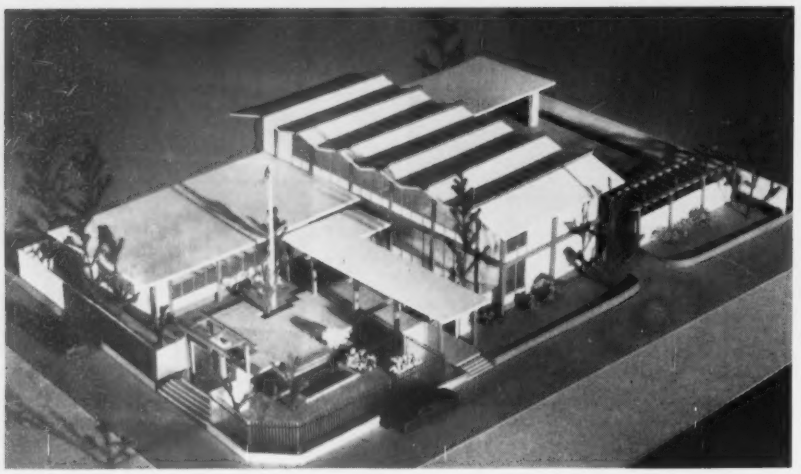
N. Y., branch of Abraham & Straus Department Store. Tishman has announced 49 prestressed concrete producers licensed to fabricate Tierpark components.

## HEADY ARCHITECTURE

Wallace K. Harrison and Oscar Niemeyer probably will be somewhat bemused to see items from the current collection of hat designer Sally Victor. One piece of headgear is based

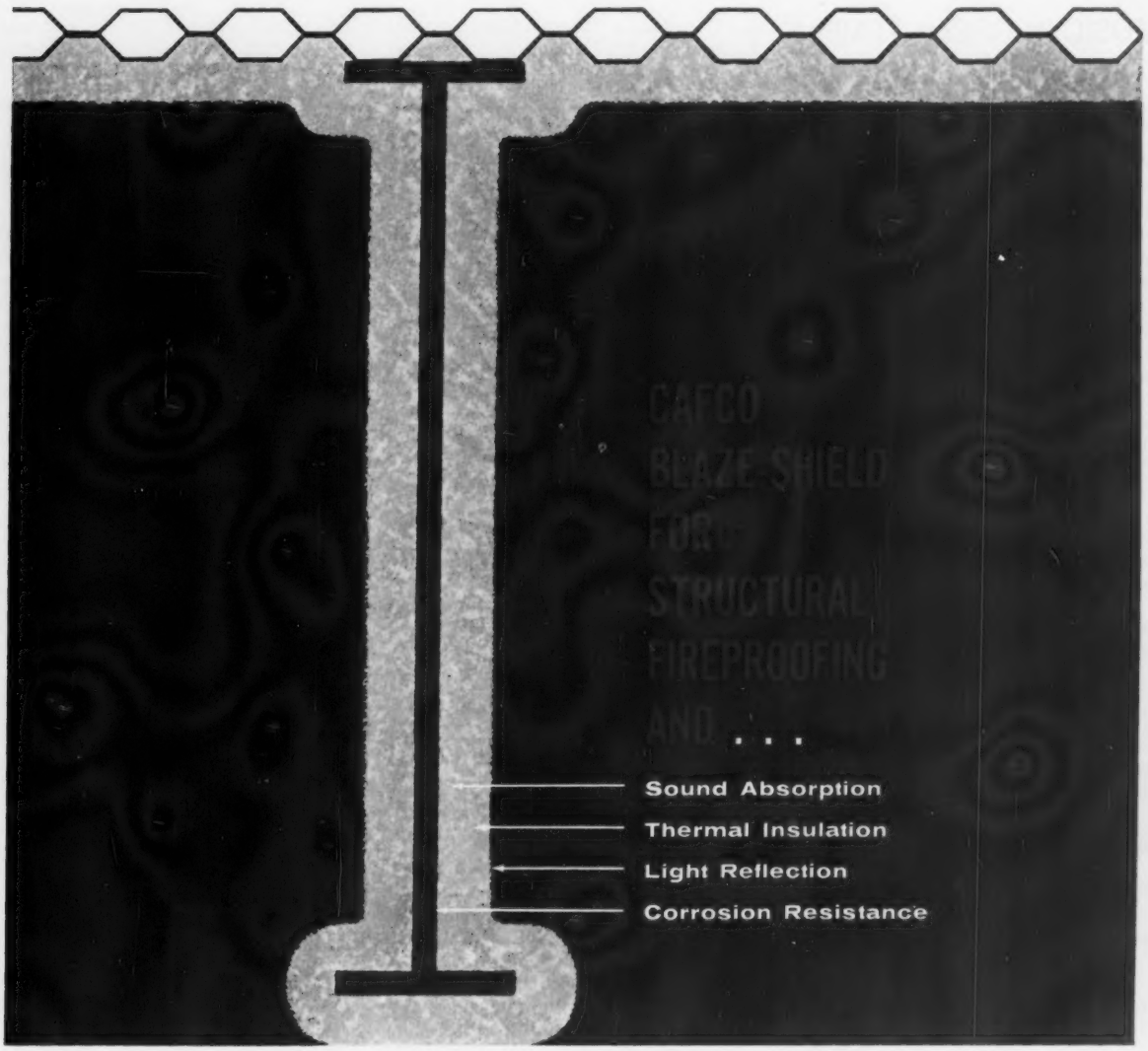
on Harrison's arches for the Metropolitan Opera House in Lincoln Center, and the other chapeau is said to be derived from Niemeyer's design

for the Brasilia cathedral. Onward and upward with the arts . . . we suppose.



## EXPRESSION OF JAPANESE DESIGN FOR CONSULATE

For the design of the U. S. Consulate in Fukuoka, Japan, architects Hervey Parke Clarke, John F. Beuttler, and George T. Rockrise of San Francisco strove for such characteristics of Japanese design as simplicity, serenity, and refined articulation of structural elements "without aping traditional Japanese architecture." The result will be a building on a residential scale in a garden which will reflect the parklike atmosphere of the neighborhood. Most prominent design element will be the folded-plate concrete roof of the two-story wing. Frame, wall panels, and floor and roof slabs of reinforced concrete will have different finishes and colors to define parts of the building. Indigenous materials such as stone, slate, and various woods will relate the building to its environment. In addition to consular affairs, the structure will house a portion of the U.S. Information Agency for Fukuoka and the surrounding area. Associate architect: Shohei Matsuda; landscape architect: Lawrence Halprin; civil engineer: William B. Gilbert; mechanical engineer: Buonaccorsi & Murray.




**■ Tested ■ Accepted ■ Proven for jobs of prominence:**

Gateway #4 Building, Pittsburgh; Architect: Harrison and Abramovitz; General Contractor: George A. Fuller Co.

Union Carbide Building, New York City; Architect: Skidmore, Owings, and Merrill; General Contractor: George A. Fuller Co.

National Cash Register Building, Chicago; Architect: Naess and Murphy; General Contractor: Somner-Sollitt Co.

Federal Post Office, New Orleans; Architect: Perez and Associates; General Contractor: Bellows Construction Co.

Liberty Mutual Building, Boston; Architect: Perry, Shaw, Hepburn and Dean; General Contractor: Turner Construction Co.

Cafco®

See our catalog in Sweets Architectural File, 12e/CO

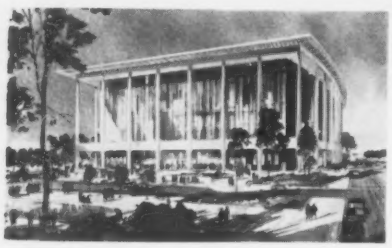
**COLUMBIA ACOUSTICS and FIREPROOFING COMPANY**

**Stanhope, New Jersey**

Cafco Blaze-Shield: Structural Fireproofing
Cafco Sound-Shield: Acoustical Treatment
Cafco Heat-Shield: Thermal Insulation

## MUSIC IN GREEK TEMPLE FOR LOS ANGELES

A building planned to combine "modern structure and design with elements of classical taste" has been proposed for the long-awaited Los Angeles Music Center by Welton Becket & Associates. The five-story center will be enclosed on all four sides by roof-high, fluted columns of steel covered with precast white stone. The roof overhang will be sculptured into modillions on its underside, and wide promenades will occur at the first and second floor levels. Capacity of the auditorium will range from 2700 to 3100; additional amenities will include a 1000-capacity reception hall, a 300-seat top-floor restaurant, five rehearsal halls, offices for non-profit cultural groups, and underground parking for 700 cars. Seating will be on the orchestra level, dress circle



level, and two upper tiers. At no performance would the farthest spectator be more than 130 ft from the stage. Site of the Music Center is Los Angeles's Civic Center. Consultants to the Becket firm—acoustics: Dr. Vern C. Knudsen, Paul Veneklasen, and Dr. Robert Leonard; stage engineering: Professor Walter Unruh; stage lighting: Jean Rosenthal; seating: Ben Schlanger.

## Apartment Group Will Pierce L. A. Skyline

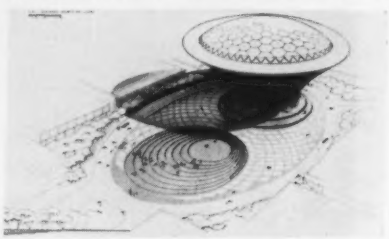
The Barrington Plaza development in Los Angeles will feature three high-rise apartment buildings oriented to provide views of the ocean on the west and mountains on the north. Two 17-story apartment buildings will occupy one end of the site, balanced at the other end by a 26-story apartment building and a two-story commercial building. Glass and bronze-anodized aluminum curtain walls will sheathe the buildings. The sloping site will be used advantageously in construction of underground garages. The park around the buildings will include a swimming pool and recreational area. Completion is expected in early 1962. Architects are Daniel, Mann, Johnson & Mendenhall.

## World's Fair to Get First Building

Action for the New York 1964-65 World's Fair has begun with the current erection of a temporary administration building to be situated on the World's Fair grounds. The architects, Skidmore, Owings & Merrill, designed a prefabricated shell "Butler" type structure including administration facilities and cafeteria. Completion has been set for late December.

## World's Fair Center Paris Prize Theme

Winner of the 1960 Lloyd Warren Fellowship (47th Paris Prize in Architecture) was this design by Lloyd G. Walter, Jr., of North Carolina State College. Subject of the competition was "a theme center for the 1964 New York World's Fair." Mr. Walter's proposal provides nine levels for national and international exhibits surrounding an immense circular space. Hyperboloid shapes generated by straight-line elements of two lat-



tice skins form the main structure. In his report for the Jury, Morris Lapidus stated, ". . . beside an imaginative design, the presentation shows a thorough grasp of draftsmanship, which is something rare in student competition these days."

## Has-Everything Hotel Center for New Jersey

The "Forum," a unique design by Davis, Brody & Wisniewski for Lakewood, New Jersey, will combine three distinct elements—hotel, motor inn, and convention hall—in one. The three units will be situated atop a plateau with parking, kitchen facilities, service, and storage below. Structures will be reinforced and precast concrete, both with exposed aggregate of marble and quartz. Business conventions will be offered recreation breaks by the outdoor and indoor swimming pools, health club, and skating rink which can be converted into tennis courts.

*Continued on page 66*

# YOU'LL BE THANKED

## FOR PROPOSING IT

**Including waste disposal in your plan is not only a progressive idea — it is the social responsibility of every Architect now designing schools, hospitals, apartment houses, industrial plants, shopping centers and supermarkets.**

The modern trend is to *incinerate waste on the premises where it occurs,* not to haul it miles away! The case against *storing* garbage, refuse and combustible rubbish is obvious. The practice is unsightly, unsanitary, uneconomic and a fire hazard.

*Hauling away* accumulated waste grows ever more costly in terms of money, manpower and complicated equipment. Community dumps breed rats, vermin, disease, and odors. Open dump burning pollutes the air with smoke, fly ash, may create lethal smog.

Dumping garbage and rubbish at sea pollutes bathing beaches, and harms marine life.

Because of all these negative social factors, it is clearly the architect's responsibility to recommend and to provide for an on-premise incinerator of the appropriate type in any new construction. Scientifically-engineered on-premise incinerators are not only socially acceptable; they also relieve municipal incinerators over-taxed by the demands of an expanding population. Equally important, your client saves money by avoiding expensive cartage.

Architects are cordially invited to make use of our 70 years' experience for advice and suggested specifications concerning the type and size of incinerator best suited for each particular purpose. We make all types of specialized incinerators, with air pollution control equipment, designed to solve the manifold problems posed by various types of waste encountered in schools (with and without cafeterias), hospitals, apartment houses, industrial plants, shopping centers, and supermarkets. Descriptive literature on request.

## MORSE BOULGER, INC.

Dept. 66

Incinerators with air pollution control equipment

**80 Fifth Ave., New York 11, N. Y.**

**WA 9-8000**

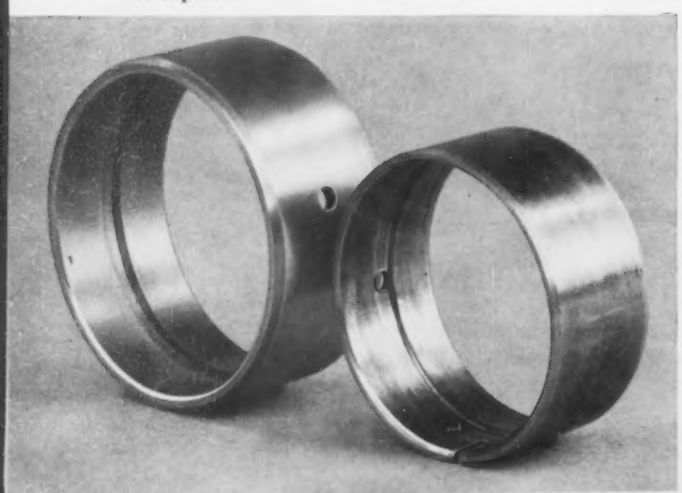
Representatives available everywhere

**Member:** *Incinerator Institute of America, Air Pollution Control Association*

# Before it is shipped every run-in and tested

Part of Onan's testing facilities—largest electric generating plant testing area in the industry!

**Big, brawny bearings** on Onan engines—twice the bearing area of most competitive bearings. Means longer life between overhauls. Another of many ways that Onan is built *up* to performance, not built down to a price.



**Stellite coated** exhaust valves and valve seats. One of toughest alloys known. Gives you up to 300% longer valve life than uncoated valves. It's the important details like this that make Onan more economical in the long run.

# Onan Electric Plant is for hours

*And we mean every Onan Electric Plant! This rugged workout under load means every Onan is ready for hard work the day it is shipped!*

Every Onan plant has a nameplate with horsepower and output ratings. Every single plant is put through a series of tough tests to make sure it does what the nameplate says it will do *before it is crated for shipping.*

But this isn't enough. Inspectors from an independent laboratory pay our factory frequent surprise visits. Their job is to check and double-check—our tested plants as well as our testing equipment and methods. They pull a plant off the line, run it, stop it, gun it, stall it, check and recheck. The end result is Onan's exclusive *Performance Certification* . . . your clients' assurance of getting the power they paid for.

Onan plants are gasoline powered to 185KW; diesel to 230KW. You can find an Onan distributor in the Yellow Pages in every major city, or write direct.

**ONLY ONAN GIVES YOU THIS CERTIFICATION**

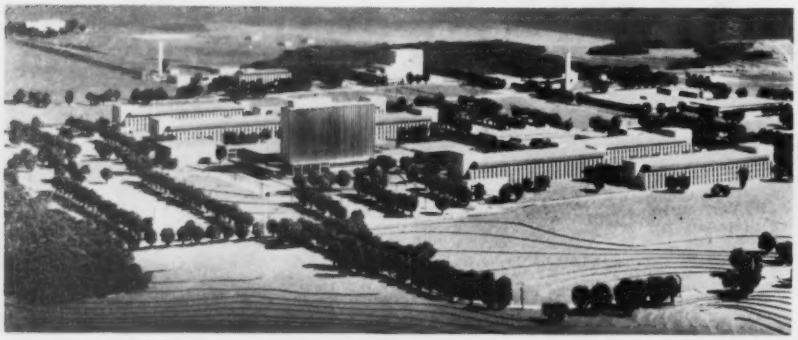
PERFORMANCE CERTIFIED
We certify that when properly installed and operated this Onan electric plant will deliver the full power and the voltage and frequency regulation promised by its nameplate and published specifications. This plant has undergone several hours of running-in and testing under realistic load conditions, in accordance with procedures certified by an independent testing laboratory.
D. W. ONAN & SONS INC.
Minneapolis 14, Minnesota
Onan

Onan®

World's Leading Builder of Electric Power Plants

**D. W. ONAN & SONS INC., 2906 UNIVERSITY AVE. S.E., MINNEAPOLIS 14, MINN.**

For more information, turn to Reader Service card, circle No. 303



## New Laboratories for National Bureau of Standards

Relocation of the National Bureau of Standards to a 550-acre site near Gaithersburg, Md., will begin with the construction of three building units designed by Voorhees, Walker, Smith, Smith & Haines, New York. The first phase includes Engineering Mechanics Laboratory, Radiation Physics Laboratory, and Power Plant. Completion of first phase is expected in about two years. Design work is also in progress for numerous other buildings including Fire Research Laboratory and Concreting Materials Building. The demand of science and industry for new and improved standards and measurement methods will be met with modern laboratory facilities provided in the Bureau's new home. First phase set at $23.5 million.

## New Headquarters for American Cyanamid

An example of American industry moving into and reviving a town (in this case, practically putting it on the map), is seen in plans of American Cyanamid Company for its new executive and administrative center in Wayne Township, New Jersey. The company, which had planned to build elsewhere, was approached at the instigation of "amateur" citizen leaders, was convinced, and will now contribute to the future, formerly somewhat dubious, of this section.

Design for the headquarters, by Vincent G. Kling of Philadelphia, provides a long, curving, four-story main building, following the contours of the site. This building will house administrative office space. Two wings will extend from the east side of the main building, one to contain a 600-seat cafeteria, and the other executive offices topped by a penthouse board room and executive dining room. Main entrance canopy and two stair towers will jut from the west side of the building. Structure will be steel frame with concrete-filled steel deck. Sculptured spandrel facings of cast stone with exposed aggregate will highlight exteriors of the serpentine building. Vertical expression will be given by aluminum frames outlining walls of glass above and ceramic-enameled glass below. Structural engineer: Severud-Elstad-Krueger Associates; mechanical and electrical consultant: Meyer, Strong & Jones.

## Country Club to Have Sophisticated Design

For River Vale, New Jersey, Architect Norval White, New York, has designed the Edgewood Country Club in the form of a "raised basilica" with side aisles and clerestory lighting. Dining room, bar, and lounge occupy raised hall; locker, service, and kitchen facilities are located below existing grade. Structure is basically of laminated wood with columns paired and in clusters of four. Exterior materials consist of stained laminated members, painted wood frames, natural cypress in vertical strips, and glass. Associate architect: Gerald A. Paul; engineer: Robert E. Levien; mechanical engineer: Kalman Kish.

## GOLDEN GATEWAY RACE

Word from one of the finalists in San Francisco's Golden Gateway Competition (APRIL P/A, pp. 77, 79-81) is that five competitors have gone by the wayside, leaving the Welton Becket scheme "still in because of its ingenious and attractive financial offer for the land (which is 2½ times everyone else's offer)," the Wurster, Bernardi & Emmons—DeMars & Reay submission, and the entry by John Carl Warnecke & Associates, Gardner A. Dailey & Associates, and Victor Gruen Associates. The latter two were the design jury's choices, the first on the basis of good planning, and the second on grounds of fine architecture.

## Central Park Cafe Voted by City Board

OK for the cafe in New York's Central Park (MAY P/A, p. 78) was given by New York's Board of Estimate after a hearing during which the Board heard 22 persons speak against it and six people speak in favor. Board voted to approve Huntington Hartford's gift of $862,500 (up $362,500 since May), including the fee of $112,500 for Architect Edward D. Stone, according to *The New York Times*.

# "for the natural warmth and beauty of wood"

"For economy, ease and speed of erection, plus the natural warmth and beauty of wood, laminated arches were the answer," state the architects. "We can state unequivocally that owners and architects are highly pleased." • • • Rilco laminated wood arches just naturally "belong" in church architecture—adapt themselves to modern or contemporary design—add to the appearance without adding to the cost. Schools, arenas, commercial and industrial buildings can benefit by the same ability of laminated wood to span large areas at low cost. Write for further information.

First Methodist Church, Rochester, Minn. Rilco laminated wood arches span 51'; center height 52'; 15' o. c. Architects: Bergstedt, Hirsch, Wahlberg & Wold, Inc., St. Paul, Minn.

RILCO

*w[illegible]onders with wood*

**RILCO LAMINATED PRODUCTS**

W817 First National Bank Building • St. Paul 1, Minn.

Offices: Tacoma, Wash.; Fort Wayne, Ind.; Linden, N. J.

ARCHITECTS
Welton Becket and Associates,
Los Angeles and
San Francisco, Calif.
WALL CONTRACTOR
Kawneer Richmond
GENERAL CONTRACTOR
Robert E. McKee, Los Angeles

# high, wide and watertight

**Kawneer Split-Mullion curtain wall prevents leakage . . . Kawneer factory-fabrication minimizes on-site costs!**

Magnificent design gives the new Kaiser Center office building's delicately curved facade lasting impact and beauty. . . Kawneer engineering makes it watertight for keeps.

Enclosing a 420-foot long, 390-foot high structural frame, the graceful, gold-colored wall was designed by Welton Becket & Associates and Kawneer Company, and fabricated in Kawneer's new Pacific Coast plant in nearby Richmond, Calif.

*Over 600 tons* of Kawneer aluminum products went into the great, new Kaiser Center buildings at Oakland, including the curtain wall, store fronts, doors, entrances, and concealed overhead closers, ornamental railings, interior paneling, and a variety of decorator's items.

Engineering, fabricating and erecting all materials supplied is typical of Kawneer's ability to handle large curtain wall jobs and related specialty items *anywhere*.

Kawneer responsibility begins with engineering aid to the architect, extends through the most complete guarantee in the industry.

**If you have a curtain wall building in the planning stage—and would like it to be watertight—have your secretary mail the coupon below to have a Kawneer Curtain Wall Specialist call.**

Serving Architecture and Industry
Kawneer
General Offices NILES, MICHIGAN
ARCHITECTURAL PRODUCTS DIVISION
since 1906

West Coast Plant
600 Parr Boulevard, Richmond, Calif.

**Kawneer materials available outside the U.S. through**
Kawneer International Limited
Kawneer de Mexico S.A. de C.V.
Apartado 73 Naucalpan de Jaures Estando de Mexico, Mexico
Kawneer Company Canada Ltd., Toronto, Ontario
1460 Don Mills Road, Don Mills, Ont.

(tear out and mail)

*Your name*_____
*position*_____
*company*_____
*address*_____
*current project*_____
*information desired*_____



For more information, turn to Reader Service card, circle No. 305

# Concern Voiced Over Decline in Population of Cities

## Census Indicates Move Away from Cities' Centers

*By E. E. Halmos, Jr.*

Census Bureau has started detailed studies of a phenomenon of major concern to architects, as well as city officials and other planners: the population decline of almost every major U. S. city over the past 10 years.

You have probably read sketchy accounts based on preliminary census results. They indicate that all U. S. cities, with the exception of six, lost population to their suburbs, although the total population of "standard metropolitan areas" generally showed increases, or at least no loss.

(The six cities that gained are Los Angeles, Houston, Dallas, Milwaukee, Seattle, and Atlanta—and some of these showed gains as a result of extensions of city limits.)

Reasons quickly advanced are many. They include such factors (to take a local example) as the major urban renewal program in Washington's Southwest section, which has cleaned out acres of housing (even though much of it was well below substandard), thus forcing residents out of the city area; better and less crowded schools and family accommodations in suburban areas; lack of good city transportation; obsolescense of office and store buildings; destruction of living areas to make way for highways; and the like.

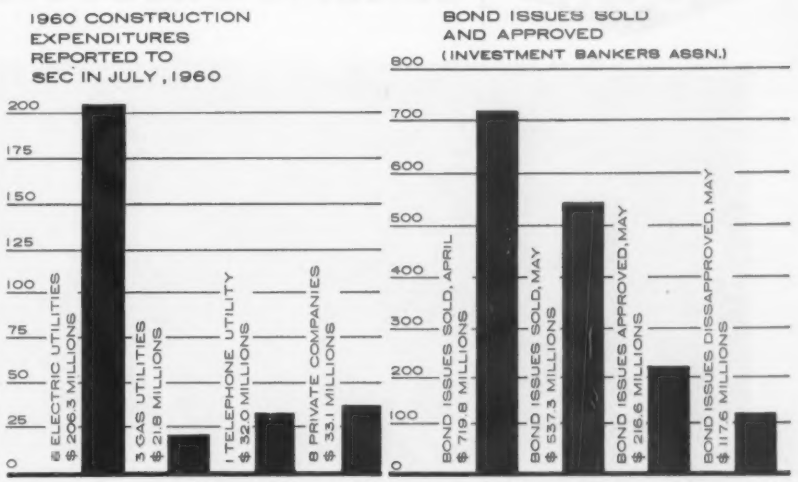
Nevertheless, the loss is real enough, and it is bound to affect the thinking that goes into future planning for city construction and rehabilitation. It lends strength to a long-held argument of many planners: perhaps the original need for a city, as a concentration of many people, services and skills in a comparatively small area, is passing—thus planning should be concentrated on creating a business and shopping center of greatest beauty and utility, to be fed daily by people from outlying areas, but be virtually unoccupied (except for theater-goers, etc.) at night.

It also presents the somewhat horrifying picture of endlessly growing square miles of suburban housing and shopping centers, rising formlessly on the outskirts, and creating problems in transportation, culture, sanitation, etc. greater than those of any single city.

Census, along with government agencies concerned with housing, health and other aspects of urban life, wants to dig deeper into its facts, hopes to come up with indications of causes and further trends.

Incidentally, the Census figures are sure to give impetus—this next session of Congress—to bills such as were presented (but not acted upon)

*Continued on page 72*




BOND ELECTION RESULTS — MAY 1960 BY USE OF PROCEEDS

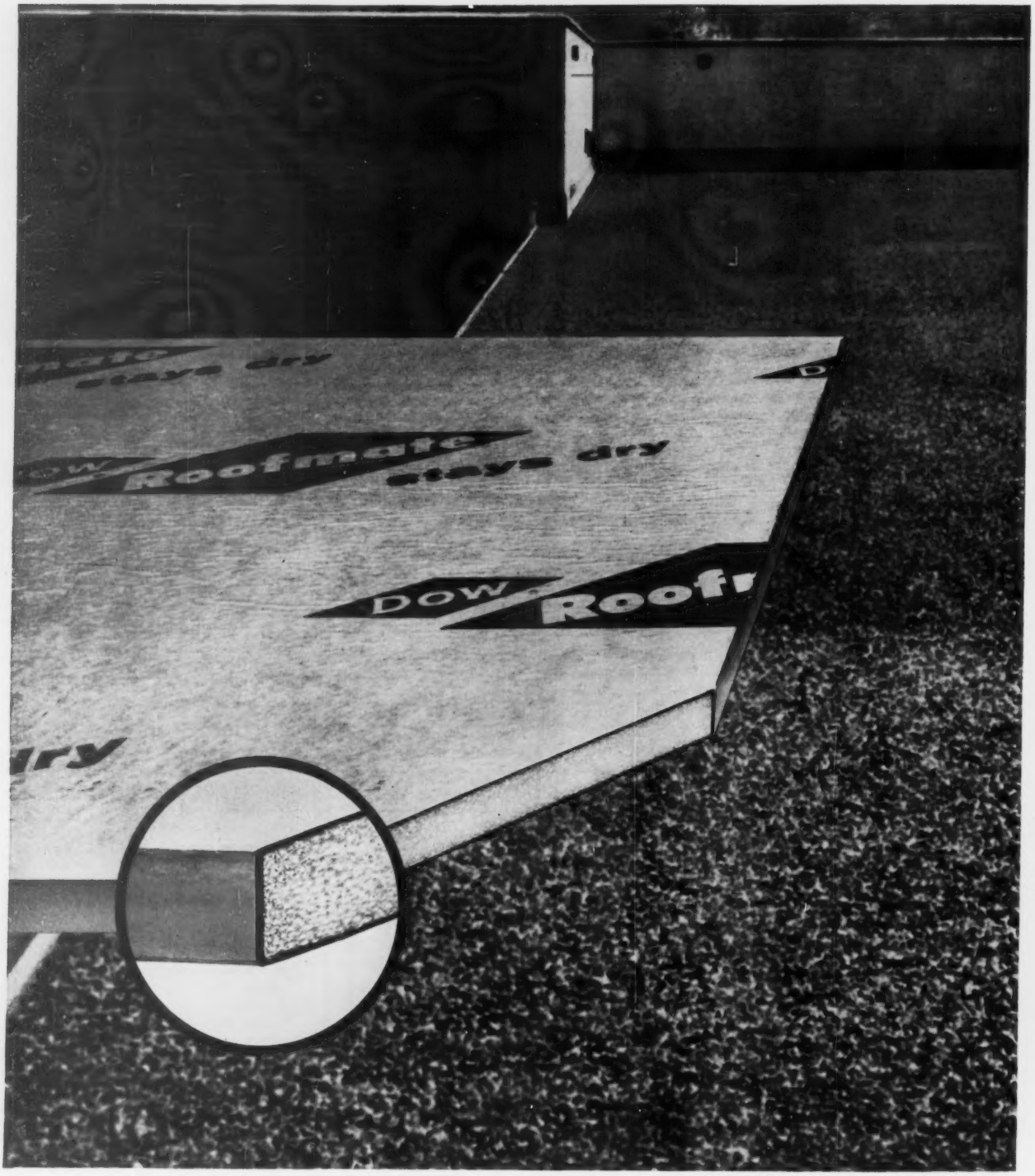
| USE OF PROCEEDS | APPROVED | | DISAPPROVED | |
|---|---|---|---|---|
| | AMOUNT | NO | AMOUNT | NO |
| EDUCATION: | | | | |
| ELEM. & SEC. | $ 126,323,000 | 108 | $ 86,861,000 | 41 |
| OTHER | 1,640,000 | 3 | 145,000 | 2 |
| ROADS & BRIDGES | 57,420,000 | 8 | 275,000 | 2 |
| WATER & SEWER | 15,684,000 | 31 | 18,453,000 | 8 |
| HEALTH & WELFARE | 1,060,000 | 4 | 200,000 | 1 |
| RECREATION | 1,731,000 | 6 | 3,828,000 | 4 |
| PORTS & AIRPORTS | 2,060,000 | 2 | 225,000 | 1 |
| INDUSTRIAL | 425,000 | 2 | —— | 0 |
| REFUNDING | 49,000 | 1 | —— | 0 |
| PUBLIC HOUSING | 1,148,000 | 2 | —— | 0 |
| VETERANS AID | 235,000 | 1 | —— | 0 |
| FLOOD CONTROL | 5,080,000 | 2 | —— | 0 |
| ADMIN. & OFFICE BLDG. | 485,000 | 1 | 1,520,000 | 5 |
| UNCLASSIFIED | 3,295,000 | 10 | 6,140,000 | 6 |
| TOTAL | $ 216,635,000 | 181 | $ 117,647,000 | 70 |

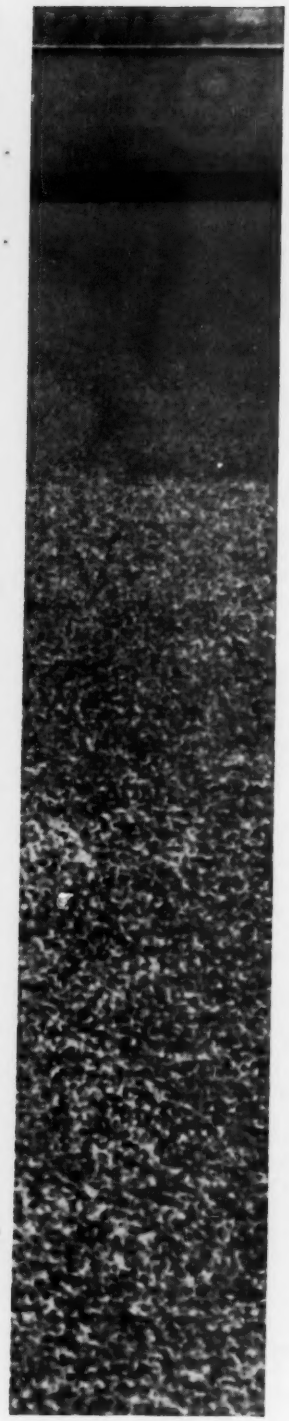
BOND ELECTIONS SCHEDULED AS OF JUNE 1, 1960

| MONTH | AMOUNT |
|---|---|
| JUNE | $ 895,284,000 |
| JULY | 42,927,000 |
| AUGUST | 5,100,000 |
| SEPTEMBER | 9,390,000 |
| OCTOBER | 19,855,000 |
| NOVEMBER | 1,129,585,000 |
| MARCH 1961 | 70,000,000 |
| NO DATE SET | 744,645,000 |
| TOTAL | $ 2,916,786,000 |

| USE OF PROCEEDS | AMOUNT |
|---|---|
| EDUCATION: | |
| ELEM. & SEC. | $ 683,734,000 |
| OTHER | 215,815,000 |
| ROADS & BRIDGES | 191,260,000 |
| WATER & SEWER | 56,008,000 |
| OTHER UTILITIES | 710,262,000 |
| HEALTH & WELFARE | 176,595,000 |
| RECREATION | 37,527,000 |
| PORTS & AIRPORTS | 11,686,000 |
| INDUSTRIAL | 3,500,000 |
| REFUNDING | 2,000,000 |
| FLOOD CONTROL | —— |
| PUBLIC HOUSING | —— |
| VETERANS AID | 602,000,000 |
| ADMIN. & OFFICE BLDG. | 70,075,000 |
| UNCLASSIFIED | 156,324,000 |
| TOTAL | $ 2,916,786,000 |

DOW | BUILDING PRODUCTS





# CLOSED CELL STRUCTURE KEEPS ROOFMATE DRY

## That's why the insulating efficiency stays high permanently; why Roofmate keeps heat, water, moisture out, regardless of weather conditions.

*Roofmate* doesn't soak up water.* The millions of tiny non-interconnecting air cells in Roofmate provide high water resistance. This insulation can even act as its own moisture vapor barrier, eliminating the need for a separate vapor barrier. Water and moisture vapor won't pass through or build up inside Roofmate.

Roofmate has a rigid core of expanded polystyrene foam (Styrofoam®), enclosed in asphalt-laminated Kraft paper. The closed-cell structure of the foam core bars water and moisture vapor entry so effectively that foam of this type is used as unsinkable flotation material for floating docks! This same water resistance makes Roofmate a permanently effective insulating material.

Low "C" factor gives Roofmate maximum insulating efficiency with minimum thickness. This lightweight material is strong and rigid, too, spanning fluted steel decks without danger of cracking. In addition, the high moisture vapor resistance of Roofmate reduces the possibility of blistering.

Roofmate can be bonded to any conventional deck—poured concrete, pre-cast panels, poured gypsum, wood, steel—and the built-up roof can be applied directly over it using any of the conventional hot-applied systems.

The advantages offered by Roofmate add up to quick, easy installation for the contractor, long, trouble-free service life for the owner, and dependable, economical performance which the architect can plan on with confidence. For more information about Roofmate, contact the nearest Dow sales office, or write THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales Dept. 1702EB9.

*Trademark

### Other Dow Building Products

**STYROFOAM®**—Long lasting insulation for cavity walls; an effective insulating base for plaster and wallboard. Low "K" factor, resistant to water and water vapor.

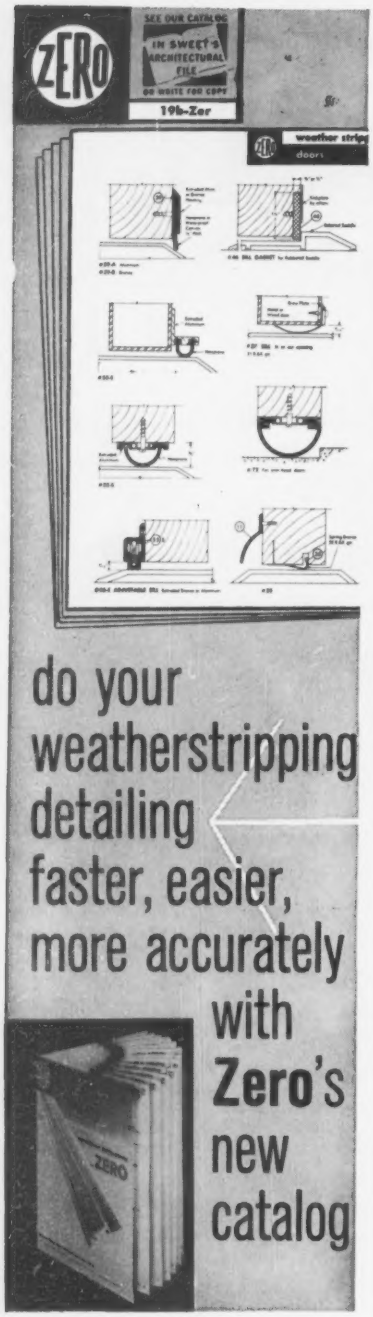
**SCORBORD®** (pat. applied for)—Superior moisture-resistant insulation for foundation perimeters, slab floors. Pre-scoring speeds installation.

**SARALOY®** 400—Durable, elastic flashing material that's cut to size right on the job, conforms to irregular shapes, bonds to most common construction materials.

**POLYFILM®**—High-quality polyethylene film for use as vapor barrier or dust stop.

*See "The Dow Hour of Great Mysteries" on TV*

THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN




FULL SIZE design and installation details make visualization easier . . . speed incorporation *directly into your plans* with a minimum of scaling-minimum chance for error. ZERO's new 28-page catalog also contains helpful application data and many time-saving suggestions for detailing weatherstripping.

**SEND FOR YOUR COPY TODAY!**

**Weather stripping for:**
- doors • windows
- saddles • lightproofing
- soundproofing
- sliding doors
- saddles for floor hinged doors

WEATHER STRIPPING BY ZERO

**ZERO WEATHER STRIPPING CO., INC.**
**453 East 136th St. • New York 54**
**Phone: LUdlow 5-3230**

For more information, circle No. 307

*Continued from page 69*

to the previous session, calling for creation of some sort of a federal department of urban affairs to deal with the city-suburb complexes that are developing. (See Congressman Lindsay's article on page 164 of this issue.)

## FINANCIAL

While housing starts held steady to near the predicted 1,334,000 units for 1960 (good, but below the 1,577,000 for 1959, shown by newly-adjusted Census figures), homebuilders pinned their hopes on future increases.

They had some facts and some predictions going for them: Dr. Reinhold P. Wolff of the University of Miami saw a "record rate" of construction due during the next five years (he set it at 1,350,000-nonfarm); Dominick & Dominick, New York investment bankers and brokers, saw a 1.8 million level by the mid-1960s. On the fact side, the Federal Housing Administration said that the annual rate of FHA applications on new homes turned upward in June for the first time this year—up 9% from May.

And there was high hope that a new source of mortgage funds would aid the housing picture after FHA began a new plan that will permit individuals—for the first time—to invest in FHA-insured mortgages. Bankers think this source will develop slowly, while investors learn the ropes.

On financial matters, generally, the U. S. economy continued to show strength, particularly for the construction market.

Probably most encouraging was the announcement of a surprisingly large U. S. Government budget surplus, amounting to about $1 billion. That represents an amazing rebound, when you consider that last year showed a deficit of $12 billions. Actual tax recepits by the government jumped nearly $10.1 billions over those for Fiscal Year 1959. Economists took it as ample evidence of the nation's economic strength.

In construction areas (see chart, page 69) evidence of continuing demand remained surprisingly strong, in view of the fact that the half-year mark had been passed.

Public utilities, or instance, announced plans during the month of July for more than $260 millions worth of work for the remainder of the year; private investors also continued their planning for heavy expansions of manufacturing plant and housing construction.

Sales of municipal bonds also continued strong—reports for May (latest available) showing continuing acceptance by the money markets. In this connection also, average median yields on these bonds, in all categories, remained several percentage points below the high figure for the year (in March).

It is interesting also that voters continued to be disenchanted with proposals for water and sewer construction and recreation projects of all kinds—they turned down much more than half of all proposals in this area. But schools and road projects continued to be approved in great numbers.

There were, however, a couple of specks on the generally good financial picture. One of these was in the manufacture of construction machinery, which apparently will drop (at $1.7 billion total shipments) in 1960 to a rate of about 60% of the capacity of manufacturing plants. The drop-off—blamed on dumping of government surplus and imports—has already caused cutbacks in production schedules.

Another was FHA's announcement that secondary market prices for FHA-insured home mortgages increased (by 0.1%) during June—which indicates a slight tightening of the money markets.

## ICBM Construction Changes

Architects who have been working—or hope to work—in the area of missile-base construction should study carefully the recent changes made by the Army's Corps of Engineers in its organization for handling construction.

The changes are at once a major overhauling of the Corps' traditional organizational setup and an answer to growing criticism of alleged delays in base construction. Further changes may be in the offing in other areas of the Corps' work.

And in any case—along with some parallel reshuffling by the Air Force—anyone working in missiles now has a whole new set of bosses and circumstances to contend with.

Briefly, here's the picture: the Corps has set up a new "Corps of Engineers Ballistic Missile Construction Office" (already dubbed "CEBMCO" in initial-happy Washington), under command of Brig. Gen. Alvin C. Welling, who has just completed a 3-year tour as Engineer-Commissioner of Washington.

CEBMCO has a direct line to Washington, reports only to the Chief of Engineers, and supersedes all district and division offices in connection with ICBM work (and experimental construction at Vandenberg, Andrews, and Patrick bases as well). It will let all contracts for architect-engineering as well as construction work; field officers on the sites will report directly to it, not to district or divisions.

# PROGRESSIVE ARCHITECTURE WILL CARRY IN ITS OCTOBER ISSUE A PRESENTATION BY THE MAKERS OF ARMSTRONG FLOORS: A PORTFOLIO OF MID-TWENTIETH CENTURY ARCHITECTURAL INTERIORS— WITH COMMENTS BY VITRUVIUS.

This sixteen page collection of views of important new buildings, with quotations from Vitruvius' "The Ten Books Of Architecture", suggests that, while there are always new architectural functions and forms, certain precepts and truths are inherent to good architecture in any period.

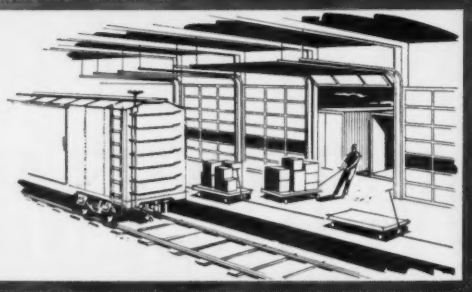
# WATCH FOR THIS OUTSTANDING ADVERTISEMENT IN OCTOBER.

*PROGRESSIVE ARCHITECTURE MEANS PRODUCTIVE ADVERTISING*

**PROGRESSIVE ARCHITECTURE** 430 Park Ave. New York 22, N. Y. A Reinhold Publication

The Union Pacific Railroad freight station, Kansas City, Kansas, uses a total of 76 "OVERHEAD DOORS" in a vast unloading system that can handle up to 96 freight cars at the same time.

Freight trains are unloaded inside the building with small hand carts. These are carried by conveyor to the proper "OVERHEAD DOOR" for reloading merchandise into trucks.



# "OVERHEAD DOOR" opens a new door to traffic control

## *Doors channel traffic—speed movement of people, vehicles, materials*

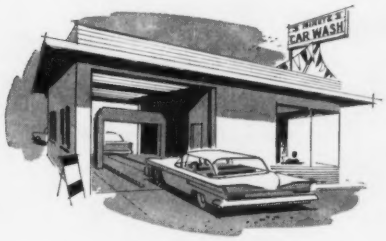
"OVERHEAD DOORS," as movable walls, give you new flexibility in designing traffic control. By *creating new outlets*, they can speed traffic through dead ends. By *opening more outlets*, they can prevent pile-ups, distribute the main flow of traffic through several openings. By *providing a selection of outlets*, they can divert the flow of traffic in a desired direction. For an unlimited variety of applications, they offer a simple, low-cost solution to more efficient movement of people, vehicles, materials.

The flexible Union Pacific Railroad freight station, shown at left, is just one example. Two banks of 38 doors serve to *sort* goods being moved from railroad cars to waiting trucks. The railroad cars enter bays inside the building and are quickly unloaded with the use of small hand trucks, which are carried by a conveyor to the proper door. This ingenious system can handle as many as 96 freight cars at once.

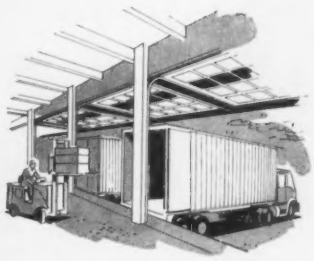
Many other new ideas in traffic control have been developed and tested by Overhead Door Corporation engineers—ideas that result from this company's 39 years of experience in the garage door field.

Get detailed information from your local distributor (see "OVERHEAD DOOR" in the white pages) for an application you may now be planning, or write to Overhead Door Corporation, *General Office:* Hartford City, Indiana—*Manufacturing Distributors:* Cortland, N.Y.; Hillside, N.J.; Lewistown, Pa.; Nashua, N.H.—*Manufacturing Divisions:* Dallas, Tex., Portland, Ore. —*In Canada:* Oakville, Ontario.

*To solve many traffic control problems—*




**Drive-through**—"OVERHEAD DOORS" front and rear (or front and sides) are frequently used by auto service centers, garages, car wash businesses and delivery companies to allow cars and trucks to *drive through* and avoid interruption of incoming and outgoing traffic.



**Reverse opening**—"OVERHEAD DOORS" that open outward, rather than inward, follow the contour of outside wall and canopy. Their reverse opening provides needed head-room for fork-lift trucks and similar equipment used inside to speed materials handling.

**Directional control**—"OVERHEAD DOORS" offer a simple, low-cost way to direct the flow of people. A typical application is a railroad passenger station using automatically operated "OVERHEAD DOORS" to open and close gates of loading passenger trains.

THE "OVERHEAD DOOR"

*the original upward-acting, sectional door... made only by*

**OVERHEAD DOOR CORPORATION**

## . . . WITH THE SMOOTH, RANCH TRIM LOOK!

**LOW INITIAL COST**—far less expensive than outmoded, bulky wood trim and jambs.

**FAST, EASY INSTALLATION**—frames are factory-welded and *shipped ready for installation!*

**SIZES FOR 1⅜" & 1¾" WOOD DOORS —3⅝" & 6" OR THICKER MASONRY WALLS**—Frames for special applications can be made to order. Submit wall details with inquiry.

**HOLIDAY INN ADDITION USES THE NEW KEWANEE MASONRY STEEL DOOR FRAME**—J. Vatterott, St. Louis contractor says, "We like the feature of welded corners and the attractive ranch-trim appearance . . . fast installation."

**WRITE FOR BULLETIN MDF 360**

Also conventional contour frames available to order.

**kewanee** *Manufacturing Co.*

960 ULLRICH ST. • KEWANEE, ILL.

For more information, turn to Reader Service card, circle No. 309

## 4 four Times Stronger than Concrete

***Furane's Epibond produces a bond line between concrete and steel 4 times stronger than concrete itself***

Now you can obtain a reliable, permanent bond between steel and concrete with Furane's EPIBOND Epoxy Dowel Grouting Compound — easily, at low cost. Regular caulking equipment serves in bonding bolts, dowels, rebar, ladders and other metal parts to concrete structures.

Epibond is easy to handle, non-toxic and non-dermatitic. It is thermosetting and cures chemically at room temperatures, for a bond completely unaffected by water or chemicals present in the concrete.

*Coated with Epibond Dowel Grouting Compound, the steel dowel in the illustration is being positioned in the horizontal hole for permanent bonding into the concrete.*

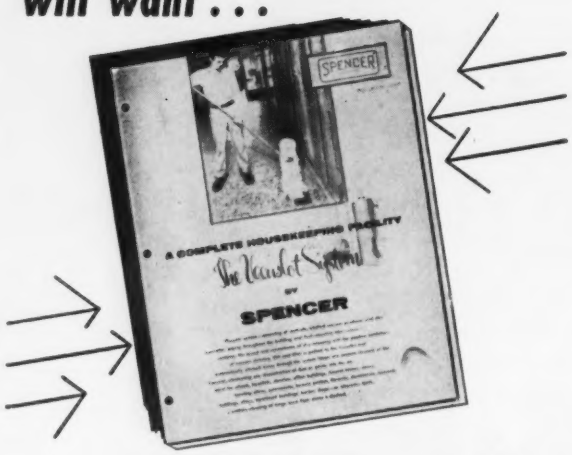
*For information concerning the Furane solution to your grouting problems, write or call:*

**furane plastics,** INCORPORATED Dept. PA

4516 Brazil Street Los Angeles, California CHapman 5-1153

For more information, turn to Reader Service card, circle No. 310

## *Here's information you'll want on a System your Clients will want . . .*




## SPENCER Vacuslot®

. . . the modern, built-in vacuum system . . . the complete housekeeping facility that handles mop-cleaning, vacuum cleaning, water pick-up and boiler cleaning.

Request Bulletin 153D

The SPENCER TURBINE COMPANY HARTFORD 6, CONNECTICUT

For more information, turn to Reader Service card, circle No. 311

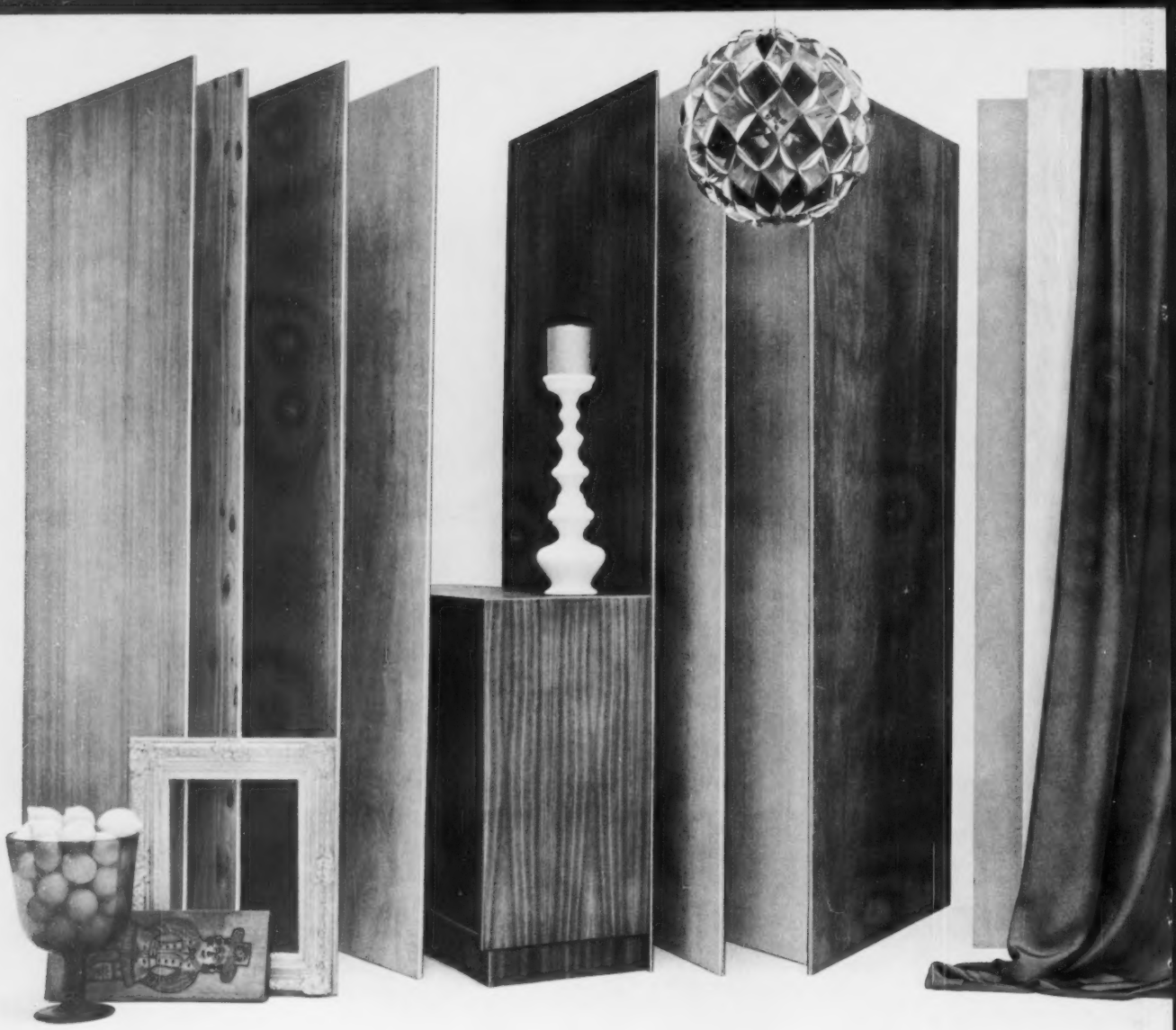
For more information turn to Reader Service card, circle No. 312 ➤

# A COMPLETE LINE OF HARDWOOD & DECORATIVE PLYWOOD

from GP GEORGIA-PACIFIC

## NEW "SILK FINISH" SAVES ON-THE-JOB SANDING!

G-P's special high-speed sanding process cuts construction time and costs.
Gives a silk-smooth surface to domestic Hardwood and Decorative Plywood.
Eliminates over 90% of on-the-job sanding, no snake tracks or swirls.
The lustrous, fine-furniture surface is ready for any type finish.
Choose from a broad selection of woods and faces . . . ——→



## SEE THESE NEW TIME-SAVING G-P "SILK FINISH"

Turn a panel to the light, *see* the extra gloss from our new high-speed sanding.
On-the-job sanding can't duplicate this fine-furniture finish.
A wide range of faces — each veneer carefully selected, perfectly bonded.
Available in thicknesses from 1/8" through 3/4" in stock panel sizes.
Cores of Western softwood veneer, hardwood veneer or lumber, or particle board.

*Special architectural sizes and faces can be custom-made to any specification.*
*Whatever the building or decorating need, G-P can fill it.*

## 80 CHOICE VENEERS...WIDEST RANGE OF COLOR,

## DECORATIVE PLYWOODS

In a complete selection of faces, cores, sizes

Above from left:
REDWOOD
CEDAR
CHERRY
RED BIRCH
WALNUT
WHITE MAPLE
FIR
GUM
WHITE BIRCH
ASH
MAHOGANY
PINE
OAK
Not shown:
MADRONE ELM
TEAK LIMBA
PECAN ROSEWOOD

## GRAIN PATTERN, PRICE...

## NEW IMPORT EXCLUSIVES!

Danish "profile" paneling,—Plyfa-Profile. A new concept, a G-P exclusive. Use this contour-faced plywood for arresting effects. Two "profiles" combine Mahogany and Obeche, three are Mahogany. 32″ x 96″ panels.

Exclusive Ply-Deck, marine grade, combines 2½″ strips of Teak or Makore (Cherry Mahogany) with ⅛″ strips of contrasting species. With hardwood core in 4′ x 8′ panels.

Other genuine hardwood imports offer a large selection of colors, grain patterns and prices. Species from worldwide sources.

GP GEORGIA-PACIFIC

# NEW! "SILK FINISH" ON FIR PLY-WOOD!

G-P's new high-speed sanding process means a better, faster finished job. This new "Silk Finish" on A face fir plywood will soon be available on ¾" AA or AB stock through nation-wide G-P distribution centers.

The consistent high quality of G-P Plywood is assured through vast reserves of prime timber . . . efficient, revolutionary manufacturing methods . . . continuing research . . . and high grading standards. For every grade, size and thickness—choose Georgia-Pacific . . .

WORLD'S LARGEST PRODUCER OF PLYWOOD

**MANUFACTURERS OF ONE OF THE NATION'S LARGEST INTEGRATED LINES OF FOREST PRODUCTS**

PLYWOOD • LUMBER • REDWOOD • HARDBOARD • PULP • PAPER • CHEMICALS

27 plants, 61 distribution centers. For complete catalog and information on all products, call your nearest Georgia-Pacific supplier, or write to Georgia-Pacific, Dept. PA960, Equitable Building, Portland, Oregon.

GP

GEORGIA-PACIFIC

# FREE DATA CARD

*To request up-to-date reference material . . . data on new products . . . manufacturers' data . . . data from advertisers*

**1** See the Data Card numbers under the item for which you wish more information . . .

**2** Circle the corresponding numbers on the Data Card at the right . . .

**3** Fill in your name and address, mail **post-free** card, and P/A will do the rest.

**USE THIS POST-FREE CARD FOR . . .**

Your P/A subscription. Receive your own copy of P/A every month . . . with its vast fund of professional coverage on design, structural and technical information, criticism, interior design, office practice problems, news, products, and manufacturers' data.

**September 1960** **This card good until Nov. 1**

Name _____ Position _____

Firm _____

Street _____

City _____ Zone _____ State _____

**I am interested in:**

**Products No.** 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118
119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145
146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172

**Manufacturers' Data No.** 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218
219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245
246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272

**Advertisement No.** 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318
319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345

## P/A for Full Information

*Exclusively for: Architects, Engineers, Designers and Draftsmen*

**NEW SUBSCRIPTION ORDER**

Please enter my subscription to PROGRESSIVE ARCHITECTURE for:

☐ One year $5. or Three years $10. ☐ (saves $5.)

☐ Bill me later Payment enclosed ☐

I am an

☐ ARCHITECT
☐ ENGINEER
registered in .....

.....

If you are a consulting engineer, or employed by an engineering firm, please indicate which branch:

☐ Mechanical ☐ Civil
☐ Electrical ☐ Other

Name: _____

Title or Position: _____

Firm Name: _____ If owner, check here ☐

Type of Business: _____

Mailing Address: _____

City: _____ Zone: _____ State: _____

☐ New Subscription ☐ Renewal

*Foreign Rates: 1 year $10. 3 years $20. (Canada: same as U.S.)*

FIRST CLASS
PERMIT NO. 1538
NEW YORK, N. Y.

**BUSINESS REPLY CARD**
No postage necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

SERVICE DESK
PROGRESSIVE ARCHITECTURE
430 PARK AVENUE
NEW YORK 22, NEW YORK

# Reply Cards for Your Convenience

FIRST CLASS
PERMIT NO. 1538
NEW YORK, N. Y.

**BUSINESS REPLY CARD**
No postage necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

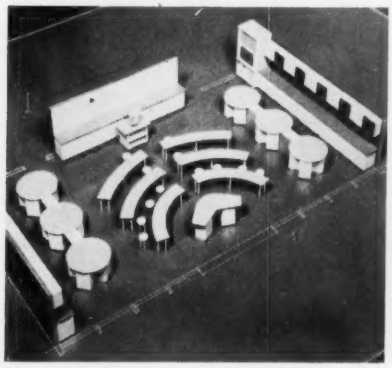
CIRCULATION DEPARTMENT
PROGRESSIVE ARCHITECTURE
430 PARK AVENUE
NEW YORK 22, NEW YORK

# Efficient Science Room Furniture is Flexible

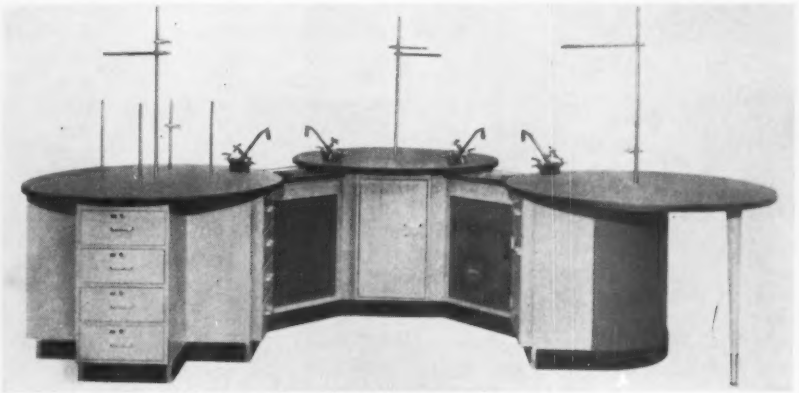
## Circular Units May Be Included in Lecture Halls

PHILADELPHIA, PA. School laboratory furniture which combines flexibility of arrangement and use has been introduced here. "Science Circle" furniture consists of laboratory tables with circular tops and a choice of bases, including a general cabinet unit with racks for equipment, a drawer unit, and a unit combining a drawer and a cabinet. Tops are available in green or black Searesin but may also be specified in alberene and stone or monolab. Supporting furniture is of white oak in two stains. Connecting sink units provide two cold water faucets, four gas cocks, four duplex electrical receptacles, stainless steel bowls, and a lead drum trap to floor line for chemicals. Each lab unit accommodates four students. Science Circle manufacturer has published a brochure showing a number of arrangements of the furniture, including an eight-student combination biology-physics-general science unit and two twelve-student combination chemistry-physics units. In addition, arrangements are shown featuring the laboratory tables in combination with an instructor's lecture and demonstration desk, curved "Amphi-Lecture" student's lecture tables, student seating, and projection equipment. John E. Sjostrom Company, Inc.

*On Free Data Card, Circle* **100**



*"Science Circle" science room arranged for 24 students.*



*Composite unit in "V" formation. Three bases are shown.*

## ROOF DECK, SHEATHING ARE ECONOMICALLY PRICED

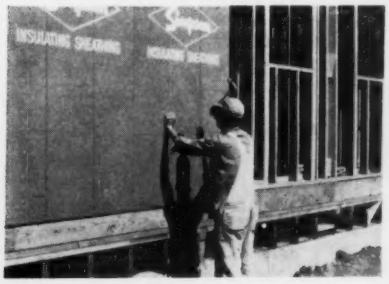
### Roofing Is Printed with Walnut Grain Pattern

SEATTLE, WASH. Two products of forest industries which will effect construction economies and add to the value of residential and small commercial buildings are announced.

"Paneldeck" is a wood grain insulating roof deck for use in post-and-beam construction. It is finished with a walnut grain pattern printed on super-smooth calendered stock. Pattern is laminated to the insulating roof deck and covered with a coat of clear resin. Paneldeck, scored at 8" centers for a planked appearance, is available in 2'x8' size in thicknesses of 1½", 2" and 3", with tongue-and-groove edges. It has a thermal insulation value of K-0.36.

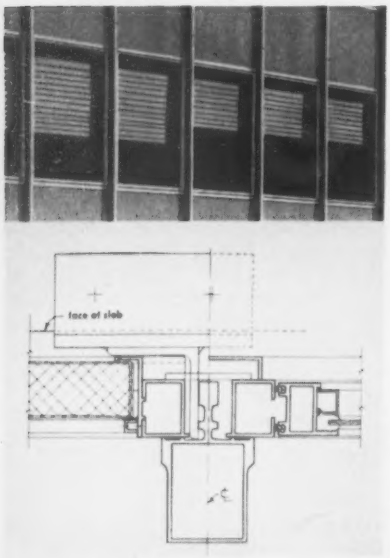
"Super-Strong Sheathing" is designed primarily for use without corner bracing. The sheathing, made from long, rough fibers of Douglas Fir and Western Hemlock, comes in ½" thickness, in 4'x8' and 4'x9' sheets. Wood and asbestos shingles may be nailed on directly, using annular ring nails of specified size. Simpson Logging Company.

*On Free Data Card, Circle* **101**



*Sheathing is pre-treated for protection against termites, rot, and mildew.*

*Insulating roof deck may be used in exposed beam construction.*




## New Curtain-Wall System

"Series 400" curtain-wall system is erected in independent mullions and one-story units consisting of sash and panel frame. System can be combined with all generally-accepted spandrel materials and fixed or reversible windows. Series, made of high quality aluminum extrusions, is integrally keyed for weather-tight seal, simplified erection, and protection against expansion and contraction. System can be erected largely from inside the structure, permitting all-weather erection. Albro Metal Products Corp.

*On Free Data Card, Circle* **102**

## Custom Fabrics May Be Applied to Foam Backing

Almost any fabric may now be backed with vinyl foam up to ¼" thick, creating sound absorbent wall covering. New laminating process enables a wide variety of fabrics to be mounted on the foam backing. Material can then be applied to walls with standard cellulose paste, or tacked or stapled. B. F. Ruskin & Company.

*On Free Data Card, Circle* **103**

## Luminous Tile for Glowing Floors

"Afterglow," a luminous vinyl floor tile incorporating phosphorous pigments, glows in the dark with a bluish light "bright enough so that objects near or on it are clearly distinguishable." When strength of light source and length of exposure equal eight ft-candles of light, tile will emit steady glow for as long as 12 hours. Decorative possibilities include lobbies, restaurants, and cocktail lounges; practical applications include hospitals, institutions, photographic and X-ray darkrooms. B. F. Goodrich Company, Flooring Products Division.

*On Free Data Card, Circle* **104**

## New Ceramic Facing In Large Sheets

"CV Durathin," a new ceramic facing material only ⅜" thick is available in sizes up to 18"x24" and in a virtually unrestricted choice of colors. Both initial costs and installation costs are substantially reduced because of its thinness, light weight, and large unit sizes. In addition, it assures the durability and low maintenance of ceramic veneer. Face-to-wall dimension is 1" (⅜" of CV Durathin and ⅝" of mortar). Federal Seaboard Terra Cotta Corporation.

*On Free Data Card, Circle* **105**

## Prefab Plumbing Possible With High-Temp Vinyl

A new vinyl plastic that can withstand temperatures 60 degrees higher than conventional vinyls, indicating use in household hot-water plumbing

and industrial hot-acid piping, has been developed. The new material, a polyvinyl dichloride called "Hi-temp Geon," retains all the qualities of strength, light weight, impact resistance, non-flammability, and corrosion resistance that have made vinyl the second largest selling plastic in the world. Claiming to be the only self-extinguishing thermoplastic pipe material capable of handling hot-water systems, and at costs competitive with existing pipe products, Hi-temp Geon represents the first significant breakthrough in this industry since the development of rigid vinyl 12 years ago. Its light weight, ease of installation, and new heat resistance make possible prefabricated kitchen and bathroom piping facilities that are, for the first time, economic and easily transported. System has recently been demonstrated in a research house built by the NAHB in Lansing, Mich. B. F. Goodrich Chemical Company.

*On Free Data Card, Circle* **106**

## Wall Heater/Ventilator On Separate Operation

The first wall heater/ventilator combination that may be operated simultaneously or separately has just been introduced. New "Heat-A-Vent" has two radiant-heating elements to pro-

vide instant, draft-free warmth. One element operated singly will give a constant and economical heat level. Where required by codes, ventilator operation may be controlled by light switch. Unit is encased in anodized aluminum for durability. Ideal for bathrooms and other areas requiring extra heat plus moisture removal and ventilation. NuTone, Inc.

*On Free Data Card, Circle* **107**

## Compact Heating-Cooling Unit for Area Conditioning

Complete, ducted, all-season heating and cooling conditioning can be provided for apartments and small commercial areas with a unit which will fit into a 36" x 36" closet. The air handling surface of the condensing unit extends through the outside wall; the part of this unit remaining inside serves as the base for the furnace. The cooling coil is mounted in top of the furnace. Unit assembled requires only 89" headroom. Unit provides nominal two tons of cooling and 51,000 Btu input of heating. Condensing unit handles intake and exhaust air on same side. By switching face plates, exhaust can be from

*Continued on page 88*

# ARCHITECTURALLY EFFICIENT

A. I. A. AWARD OF MERIT
17,000 square feet of Macomber V-LOK integrate the crisp lines of Los Angeles UAW Union Service Center.
ARCHITECT:
Smith and Williams, Pasadena, Calif.
STRUCTURAL ENGINEER:
Kolesoff & Kariotis.
CONTRACTOR:
Roulac Company.

(Photo by Julius Shulman)

## MACOMBER V-LOK
## coordinates with contemporary design

Macomber V-LOK enhances architectural layout—blends utility and simplicity with the clean concept of advanced architectural thought. Engineered V-LOK adapts to collateral materials—allows for future expansion—erects easily and quickly.

Your local Macomber Sales Representative stands ready to demonstrate V-LOK efficiency and economy, how V-LOK coordinates with contemporary architectural design.

Utilize the speed, economy and earlier occupancy of V-LOK on your next project.

**LATEST PRODUCT FACTS:**
Get your copy from your local Macomber Sales Representative or write today for this informative manual.

NAME.....

COMPANY.....POSITION.....

ADDRESS.....

CITY.....STATE.....

PA 2-60V

**MACOMBER**
**CANTON 1, OHIO**

ALLSPANS • V-LOK • V-BEAMS • V-GIRDERS
BOWSTRING TRUSSES • ROOF DECK • STRUCTURAL STEEL

SEE OUR CATALOG IN SWEET'S OR WRITE FOR COPY

For more information, turn to Reader Service card, circle No. 313

Insulite Roof Insulation is used on this University of South Carolina Men's Dormitory.

**SOME REPRESENTATIVE BUILDINGS INSULATED WITH INSULITE ROOF INSULATION:**

Post Office Building . . . Baltimore, Md. • Veterans Hospital . . . Phoenixville, Pa. • General Motors Co. . . . Pontiac, Mich. • Hoosac Pier, Port of Boston . . . Boston, Mass. • Minneapolis Honeywell Co. . . . Minneapolis, Minn. • U.S. Treasury Building . . . Washington, D.C. • State Hospital . . . Torrence, Pa. • Commonwealth Edison Power Plant . . . Chicago, Ill. • Manual Arts School . . . Hastings, Neb. • Chicago, Rock Island & Pacific Depot . . . Chicago, Ill. • Cadillac Bldg. . . . Rochester, N.Y. • Post Office . . . Beverly Hills, Calif. • Fenway Baseball Park . . . Boston, Mass. • Bethlehem Steel Co. . . . Baltimore, Md. • Pacific Telephone & Telegraph Co. . . . San Francisco, Calif. • Packard Motor Co. . . . Toledo, Ohio • Dept. of Interior, Fed. Office Bldg. . . . Washington, D.C. • Erie Forge & Steel Co. . . . Erie, Pa. • Grumman Aircraft Co. . . . Bethpage, N.Y.

**To assure a good design** and to provide a good base for roofing felts—use Insulite Cant Strip. Ideal for eliminating sharp breaks in roofing felts where the flat deck meets with wall, chimney or other vertical surface. Sizes: 3″ x 3″ and 4″ x 4″.

**Solve drainage and water runoff problems** with Insulite Tapered Edge Strip. Used at outer edges of flat roofs, it carries felt smoothly over nailing members. 4 foot lengths, 12″ or 18″ wide. Tapers from 1⅝″ to ⅛″.

# Solve more application problems with extra-strong Insulite Roof Insulation

### *Tapered Edge Strip and Cant Strip assure better, trouble-free roofs*

Today, more than ever before, a sound, trouble-free roof requires insulation with high transverse and compressive strengths. These strength properties are needed to resist cracking, crushing and flexing due to on-the-job handling and roof traffic loads. Insulite Roof Insulation is vastly different from soft—or brittle—materials. It is made of *all-wood fibers*—slow-growing Northern wood, for strength and rigidity.

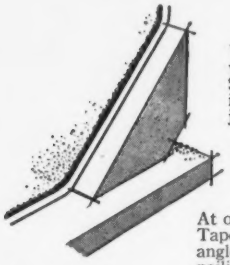
Insulite® Roof Insulation is available in two types: Ins-Lite® made of natural wood fibers; Graylite®, of the same basic material, but integrally impregnated with asphalt for greater strength and moisture resistance.

To meet certain troublesome roofing problems, Insulite offers a Tapered Edge Strip and a Cant Strip (illustrated and described below); both are made of the same basic wood fibers as Insulite Roof Insulation to eliminate any hazards caused by introducing another material with different properties.

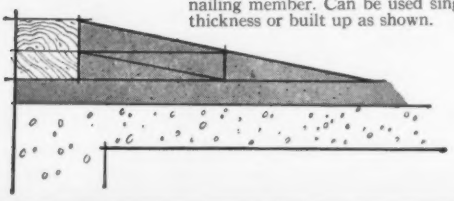
Insulite provides a uniform, durable and highly efficient insulation that takes rough on-the-job handling without breakage or crushing. It lays fast and uniformly, is easy to apply.

For complete specifications on Insulite Roof Insulation, Tapered Edge Strip and Cant Strip, just call your nearby Insulite representative; or send the coupon to Insulite.

**Solve these special roofing problems with Insulite Tapered Edge and Cant Strip**

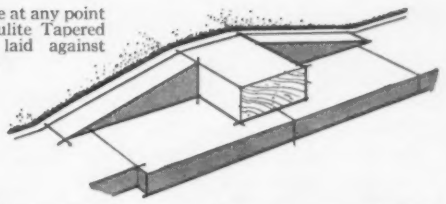


Where roof meets wall or other vertical surface, Insulite Cant Strip eliminates 90° break in roofing felts. Makes a well designed joint.

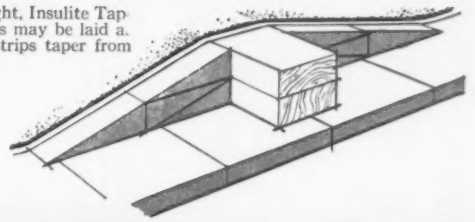


At outer edges of flat roofs, Insulite Tapered Edge Strip eliminates sharp angles, carries felt smoothly over nailing member. Can be used single thickness or built up as shown.

To channel drainage at any point on a flat roof, Insulite Tapered Edge Strips are laid against raised nailing base.



To build up height, Insulite Tapered Edge Strips may be laid as shown above. Strips taper from 1⅝" to ⅛".



SPECIFY

**INSULITE®**

**INSULITE,** *made of hardy Northern wood fibers*
*Insulite Division of Minnesota and Ontario Paper Company, Minneapolis 2, Minnesota*

INSULITE DIVISION
MINNESOTA AND ONTARIO PAPER COMPANY
MINNEAPOLIS 2, MINNESOTA

Send specifications and samples of Insulite Roof Insulation to:

NAME_____

ADDRESS_____

CITY_____ ZONE___ STATE_____

*Continued from page 84*
either right or left side. New refrigerant circuiting method increases the amount of refrigerant sub-cooling, improving Btu per watt performance because liquid refrigerant reaches evaporator coil up to 20 F cooler than the condensing temperature. Lennox Industries, Inc.

*On Free Data Card, Circle* **108**

## Two New Fire Ratings For Acoustical Fire Guard

"Acoustical Fire Guard," introduced a year and a half ago, has received from Underwriters' Laboratories new ratings as fire retardants. A four-hour rating was given an Acoustical Fire Guard ceiling when combined with a cellular steel deck and a 2½" concrete floor assembly. This system also passed the four-hour test with "penetrations" (recessed lighting fixtures, air conditioning ducts, etc.). A one-hour rating was granted the tile in tests with a floor and ceiling assembly consisting of wood joists and a wood floor. Armstrong Cork Company.

*On Free Data Card, Circle* **109**

## Attic Fan with Automatic Shutter Announced

A 30" electric, direct drive attic fan is available which can be equipped with ceiling shutters that open and close with the operation of the fan, and have a "flutter"-proof design of overlapping aluminum louvers mounted in a formed steel frame. Fan is said to be quieter than most kitchen exhaust fans; operates smoothly at 835 rpm. The Emerson Electric Manufacturing Company.

*On Free Data Card, Circle* **110**

## Four Drywall Systems Announced

Four new drywall partition systems have been announced by U. S. Gypsum, making such systems announced this year an even half dozen. The new systems are: two-inch solid partition system; double-solid partition system; metal stud partition system; and ceiling and wall furring systems. Two previously released were movable Vaughan walls and semi-solid partition system for residential use. The 2" solid partion is designed to divide space within a living unit. It has a core of 1" monolithic gypsum coreboard, 24" wide, with long edge tongue-and-grooved, and available in 8', 9', 10', and 12' lengths. Floor and ceiling runners may be wood or steel. The double-solid partition is for party and corridor walls or to enclose mechanical services. It has L or U shaped runners to which the coreboard is screw-attached. The metal-stud partition system consists of a lightweight channel stud set in steel runner tracks at floor and ceiling, and faced on each side with "Sheetrock" gypsum wallboard. It is suitable for practically all types of new construction, plus remodeling and alterations. In the drywall ceiling system, gypsum wallboard or backing board is fastened to a lightweight metal furring channel of special design. Complete ceiling may be decorated or left exposed to receive acoustical tile. Drywall wall furring system has same parts and materials as ceiling system, and may be installed over any surface. United States Gypsum Company.

*On Free Data Card, Circle* **111**

## Sheet-Mounted Wall Tile Installs Economically

Sheets of twelve 4¼" x 4¼" ceramic wall tiles can be installed with greatly increased speed and reduced cost. Tile is mounted on strong paper mesh that is twisted and bonded to the tile by a

special cement. Sheets do not buckle in handling, yet mesh can be easily trowel-cut. Mortar, mastic, or mortar mix are suitable for installation, coming in contact with 70 percent of the tile surface. Soaking is not necessary. Stylon Corporation.

*On Free Data Card, Circle* **112**

## Ceiling Tile Is Cheaper, More Lightweight

Expanded plastic ceiling tile is said to be priced at least 50 percent lower than other standard ceiling tile materials. Rigid material is white, and has a striated surface. Light weight makes possible use of lighter than usual supporting grids. Tile has superior insulating qualities. It is classified by American Society of Testing Materials as a self-extinguishing plastic. Material, 1" thick, comes in 2'x2' and 2'x4'. General Foam Plastics Corporation.

*On Free Data Card, Circle* **113**

## Recovery-Room Unit Lowers from Ceiling

A new intensive-care nursing and service unit for hospital recovery rooms telescopes downward to nursing level when needed, and upward above head when not in use. The ceiling-

mounted emergency station makes it possible to bring all supply lines—oxygen, vacuum, and electricity—directly to bedside without crossing floor. Beds can be located in center of room for improved circulation. Unit provides complete facilities for two patients. National Cylinder Gas Division, Chemetron Corporation.

*On Free Data Card, Circle* **114**

## Acoustical Board In 4'x4' Size

A new, large 4'x4' size in glass-fiber acoustical-ceiling boards for suspended ceilings has been introduced. The new "Ultracoustic" board features low initial cost, fast installation, minimum of handling and fitting, and reduction of suspension members required. The surface is a travertine fissured design, and can be used with 2'x4' boards of the same design for varying effects. Gustin-Bacon Manufacturing Company.

*On Free Data Card, Circle* **115**

## Wood-to-Concrete Adhesive Material

Newly-developed adhesive material rapidly secures wooden-block flooring

*Continued on page 90*

# Specify Floor Maintenance to Insure CONTINUING Beauty of your Interiors

After you have specified flooring, its final clean-up and initial treatment, go one step further: **Specify proper continuing care.**

After building acceptance, proper maintenance will display your floors effectively, help set off and complement your interior design–through years of wear.

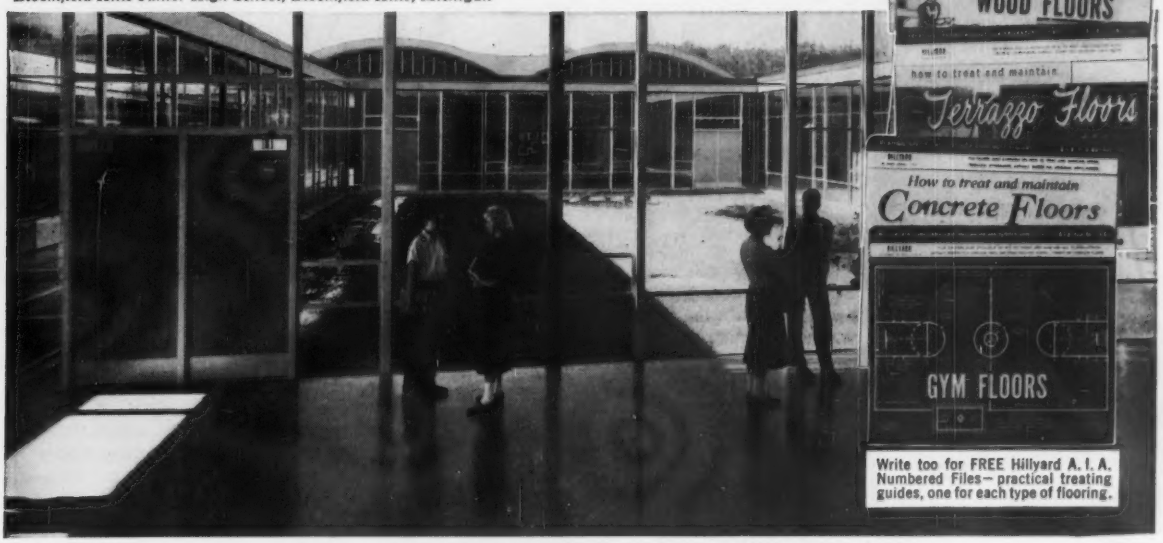
For the beautiful floor below, there was no "or equal".

Let us prepare for you a manual on the care of the floors you specify. Your client will appreciate this added architect specified maintenance service and you'll like the way flooring complaints will be eliminated.

- Over 160 Hillyard trained floor treatment experts are located throughout the United States.
- There's one near you who will, at your request, survey your finished floors, determine traffic and soil loads for the various floors and recommend proper maintenance procedures. A complete manual for floor care will be individually compiled for every floor you specify.
- Write for the name of your nearest Hillyard "Maintaineer" who can provide this free service. District offices listed in Sweet's Architectural File.

Approved by the Maple Flooring Manufacturers Assn. Listed by UL classified as to slip resistance.

*Bloomfield Hills Junior High School, Bloomfield Hills, Michigan*



Write too for FREE Hillyard A. I. A. Numbered Files—practical treating guides, one for each type of flooring.

**WHETHER TERRAZZO, WOOD, CONCRETE, CERAMIC TILE or RESILIENT FLOORS**

## You'll Finish Ahead with HILLYARD

PRODUCERS COUNCIL

IN SWEET'S ARCHITECTURAL FILE

H I L L Y A R D

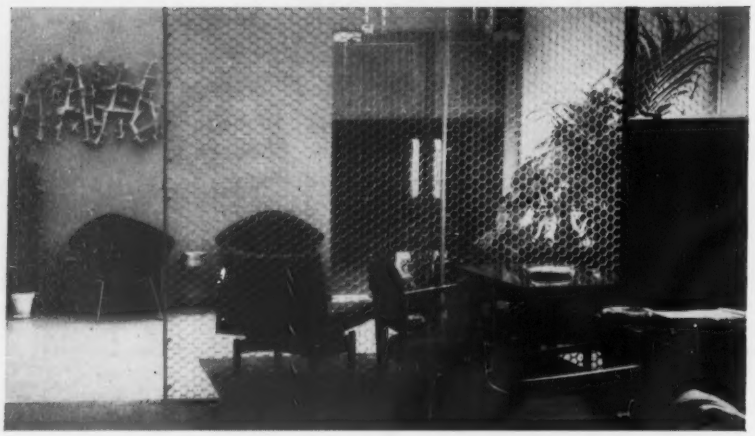
Passaic N. J. ST. JOSEPH, MO. San Jose, Calif.

Dept. A-4

*Branches and Warehouse Stocks in Principal Cities*

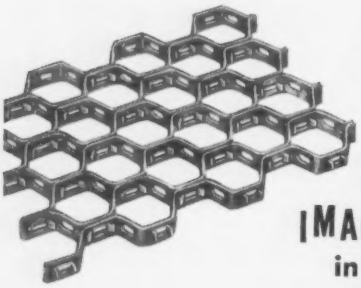
For more information, turn to Reader Service card, circle No. 315

# CUSTOM EFFECTS in ORNAMENTAL GRILLES at low cost!



IRVICO'S mass production of "ALUMINUM GRIDSTEEL" now enables the designer to achieve the "custom look" in grillework economically.

"ALUMINUM GRIDSTEEL" is a honeycomb mesh that allows great flexibility in scale and texture, and diversity of application. Its third-dimension affords varying degrees of opacity depending on angle of view.



"ALUMINUM GRIDSTEEL" is available in rigid or flexible panels of various sizes... anodized, painted or mill finish.

•

Write for colored brochure

IMAGINEERING in ALUMINUM "GRIDSTEEL"®

IRVICO

IRVING SUBWAY GRATING CO., Inc.

ORIGINATORS OF THE GRATING INDUSTRY

Offices and Plants at
5041 27th ST., LONG ISLAND CITY 1, N. Y.
1841 10th ST., OAKLAND 10, CALIFORNIA

For more information, turn to Reader Service card, circle No. 316

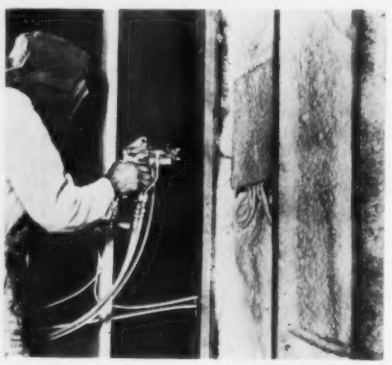

*Continued from page 88*

and wooden screeds to concrete slab floors and foundations. The new product, "Bondite Asphalt Adhesive," enables wooden blocks to be laid and walked on at once; flooring may be nailed to screeds 30 minutes after application. The material dries to a flexible form that allows expansion and contraction during temperature changes, yet holds wood firmly in place without disbonding. Lion Oil Company Division, Monsanto Chemical Company.

*On Free Data Card, Circle* **116**

## New Foamed Insulation Cuts Installation Time

A new liquid spray foam insulation, promising installation in half the time of conventional insulations, has been developed. The foamed-in-place urethane, expanding to 30 times its original volume within seconds of application, is permanently bonded in place, will not shrink, is not subject to damage by mildew or age, and is



odorless. Spraying is done with a high-speed gun that mixes the chemicals, atomizes them, and forces them out of the gun. The insulation has a K factor of 0.15 at 75 F, and a 2″ layer is equal to or better than 3″ of the best conventional insulations. Additional advantages: a permanent monolithic seal devoid of seams; excellent soundproofing characteristics; and high moisture-vapor impermeability almost equal to plastic film. Dayton Industrial Products Company Division, Dayco Corporation.

*On Free Data Card, Circle* **117**

## Electronic Air Cleaner Reduced in Size

New panel-type electronic air cleaner is only 2″ thick in direction of air flow, occupies less than 1/60 the space needed for similar equipment 10 years

*Continued on page 92*

# NO SERVICE PROBLEM HERE...

*Exclusive with*

# UNIVERSAL *"Service Guaranteed"* BALLASTS

For years, UNIVERSAL has been paying the bill for the replacement of in-warranty inoperative fluorescent ballasts. These payments are a direct part of the *exclusive* and *comprehensive* UNIVERSAL Two Year Warranty Service Program with (T)(E)(S)*. Architects, engineers, contractors, distributors, fixture manufacturers and maintenance personnel are *all* relieved of the burden of service.

Should you be confronted with a lighting failure which appears to be abnormal, regardless of the number of ballasts involved, you are requested to telephone UNIVERSAL — COLLECT — and ask for (T)(E)(S)*. *Within 24 hours* of your phone call, one of our field engineers will visit your installation. Assuming that our technical people determine that the lighting failure stems from ballasts which are being used in proper application, UNIVERSAL will arrange for the replacement of those ballasts and pay all charges in connection with the replacements, *including labor*. This is made possible by the high quality performance of UNIVERSAL "Service Guaranteed" BALLASTS in millions of fluorescent fixtures everywhere. *A fine product can afford a fine guarantee.*

You owe it to your own peace of mind to get the full details on this program. MAIL THIS COUPON FOR DESCRIPTIVE BROCHURE.

**Technical Engineering Service*

*The only complete service program in the ballast industry!*

**UNIVERSAL MANUFACTURING CORPORATION** Dept. PA
29-51 East Sixth Street, Paterson 4, New Jersey

Please send me your brochure describing UNIVERSAL's EXCLUSIVE (T)(E)(S) (Technical Engineering Service) PROGRAM.

NAME .....

FIRM .....

STREET .....

CITY & STATE .....

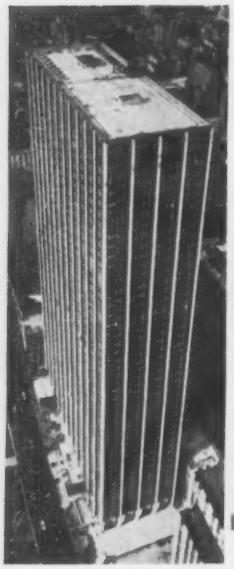
☐ Architect ☐ Distributor ☐ Maintenance Man
☐ Engineer ☐ Fixture Mfr. ☐ Builder
☐ Contractor ☐ Equipment Mfr. ☐ Other .....

**UNIVERSAL**
**MANUFACTURING CORPORATION**
**Executive Offices and Plant:** 29-51 East Sixth Street, Paterson 4, N. J.
**Branch Off. & Warehouse:** 4402 W. Jefferson Blvd., Los Angeles 16, Cal.

THE LARGEST INDEPENDENT MANUFACTURER OF FLUORESCENT TRANSFORMERS IN THE UNITED STATES

For more information, turn to Reader Service card, circle No. 317

key problem SOLVED
—specifications included
TELKEE



the only complete system of key control

The new Time & Life Building, Rockefeller Center, New York. Harrison, Abramovitz & Harris, Architects. George A. Fuller Company—John Lowry, Inc., General Contractors. Charles Kurzon, Inc., Hardware Contractor.

The TELKEE President

At Rockefeller Center's new 48 story Time & Life Building, TELKEE solves KEY problems before they occur.

**During Construction**—All keys delivered in TELKEE Key Gathering Envelopes, each identified and indexed. TELKEE solved usual problems of lost, damaged, and unidentified keys.

**At Completion**—Using data on TELKEE envelopes, owner transferred keys to 4 TELKEE Units installed by Hardware Contractor. Entire lock system was immediately under owner's control. TELKEE insured maximum convenience and security.

**After Occupancy**—TELKEE controls the keys to every lock, including those on owner-installed equipment. TELKEE keeps keys in authorized hands; maintains master key system security; virtually eliminates eventual relocking expense.

From 21 to 2240 key capacities in 8 popular models, TELKEE is completely flexible to fit every application, every budget. Send for complete TELKEE specification data file.

TEL KEE
The MOORE KEY CONTROL® System

P.O. MOORE, INC., Glen Riddle 45, Pa.
Send descriptive and specification data on TELKEE
NAME_____
FIRM_____
ADDRESS_____
CITY_____ ZONE____ STATE_____

For more information, circle No. 318

*Continued on page 90*

ago. Capacity ranges (with size) from 640 to 1000 cfm per panel. Removes particles as small as 1/2,500,000 of an inch from the air. A gage shows when dirt-collecting pad should be changed. Power requirement is only that of a 25 watt light bulb. Trion, Inc.

*On Free Data Card, Circle* **118**

## Light-Weight, Load-Bearing Panel Wall System

"Stran-Wall," a new load-bearing panel wall system for one- and two-story buildings, includes three major elements in one package from one source: light-weight, load-bearing steel framing; porcelain enameled curtain wall panels that are slipped into grooves in the steel structure; and aluminum mullions, jambs, sills, and headers which are snap-fit or attached by concealed screws. Other features are positive water seal and ventilation to reduce condensation, thin-line mullions, and a choice of hopper, fixed, and projected windows. Stran-Steel Corporation, Division of National Steel Corporation.

*On Free Data Card, Circle* **119**

## Dutch-Made Table/Desk Of Unusual Versatility

A remarkedly versatile drawing table/desk has been recently introduced by a Dutch firm. Adjustable from a low horizontal position of 30″ to a high of 46″, the "Reply" can be adjusted to any inclination from completely

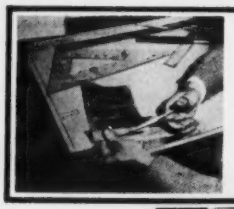
horizontal to completely vertical. A device on one leg of the molded-steel frame permits adaptation to any floor condition, keeping the unit constantly level. Unit is equipped with a ¾″-thick drafting board in sizes up to 30″ x 40″ and a detachable tray for drawing equipment. Table has received an award for design and quality from an international jury in Brussels. Netherlands Trade Commission.

*On Free Data Card, Circle* **120**

are you spending $12.00 for a one cent job?

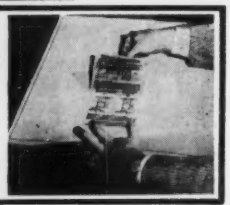
If you're duplicating drawing details, you're squandering precious hours of costly drafting time. STANPAT, the unique tri-acetate that is pre-printed with *your* standard and repetitive blueprint items, cuts time involved from 3 *hours to 15 seconds!* Figured at current pay rates, this means a $12 job at less than one cent . . . the STANPAT way. Easily transferred to your tracings by an adhesive back or front, STANPAT relieves your engineer of time-consuming and tedious details, freeing him to concentrate on more creative work.

here's how simple the STANPAT method is!



**PEEL** the STANPAT from its backing.

**PLACE** the STANPAT into position on the tracing.



**PRESS** into position . . . will not wrinkle or come off.

STANPAT is available in two types of adhesive backs:

- Rubber base for standard drafting and tracing papers
- Resin base to prevent leaching for papers that contain oils

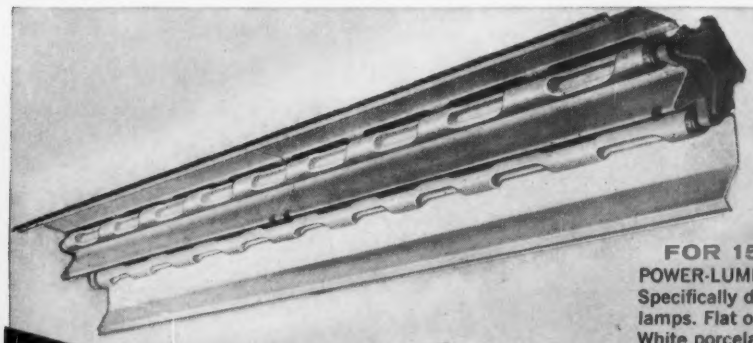
But whatever the application may be, there's a STANPAT product for your specific needs. STANPAT has a guaranteed shelf life of one year from date appearing on tab end. For further information and technical assistance, complete the coupon below and mail.

STANPAT CO. Whitestone 57, N. Y., U. S. A.
Phone: FLushing 9-1693-1611

☐ Please quote on enclosed samples.
☐ Kindly send me STANPAT literature and samples. DEPT. 22

Name_____
Title_____
Company_____
Address_____

For more information, circle No. 319



**FOR 1500 MA LAMPS**

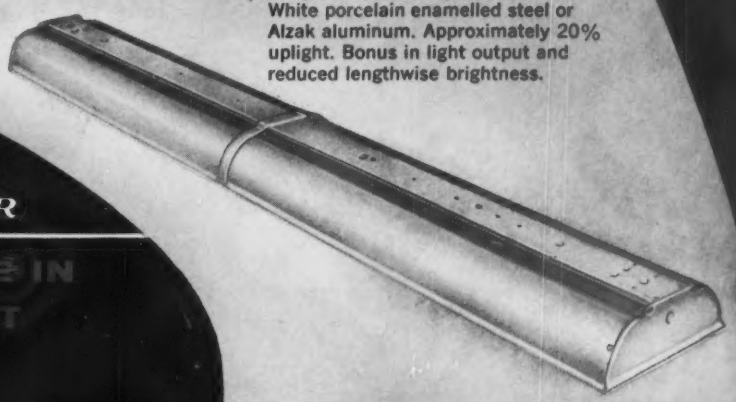
POWER-LUME, best for low brightness. Specifically designed for 1500 MA lamps. Flat or "V" type reflectors. White porcelain enamelled steel or Alzak aluminum. Approximately 20% uplight. Bonus in light output and reduced lengthwise brightness.

*WHEELER REFLECTOR*

SETS THE PACE IN HIGH OUTPUT LIGHTING

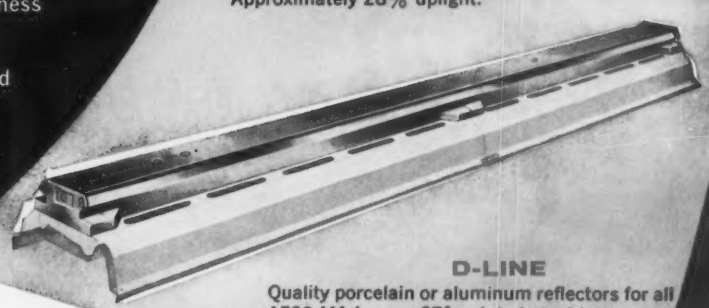
*Matches modern advances in lighting to give you . . .*

- High light output with low brightness
- Maximum visual comfort
- Easy, economical installation and maintenance
- Full advantage of high intensity, carefully controlled for all applications



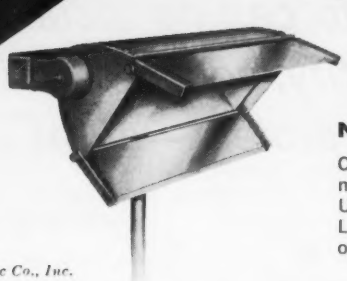
**BI-FLO**

Superior lighting quality and efficiency for T-12 1500 MA lamps. 30° and 49° louvers for variety of shielding requirements. Clean, neat lines. Porcelain or painted finishes. Approximately 28% uplight.



**D-LINE**

Quality porcelain or aluminum reflectors for all 1500 MA lamps. 27° painted steel louvers for 1500 MA lamps when lamp type is specified. Approximately 12% uplight.



**NEW "Q" LINE**

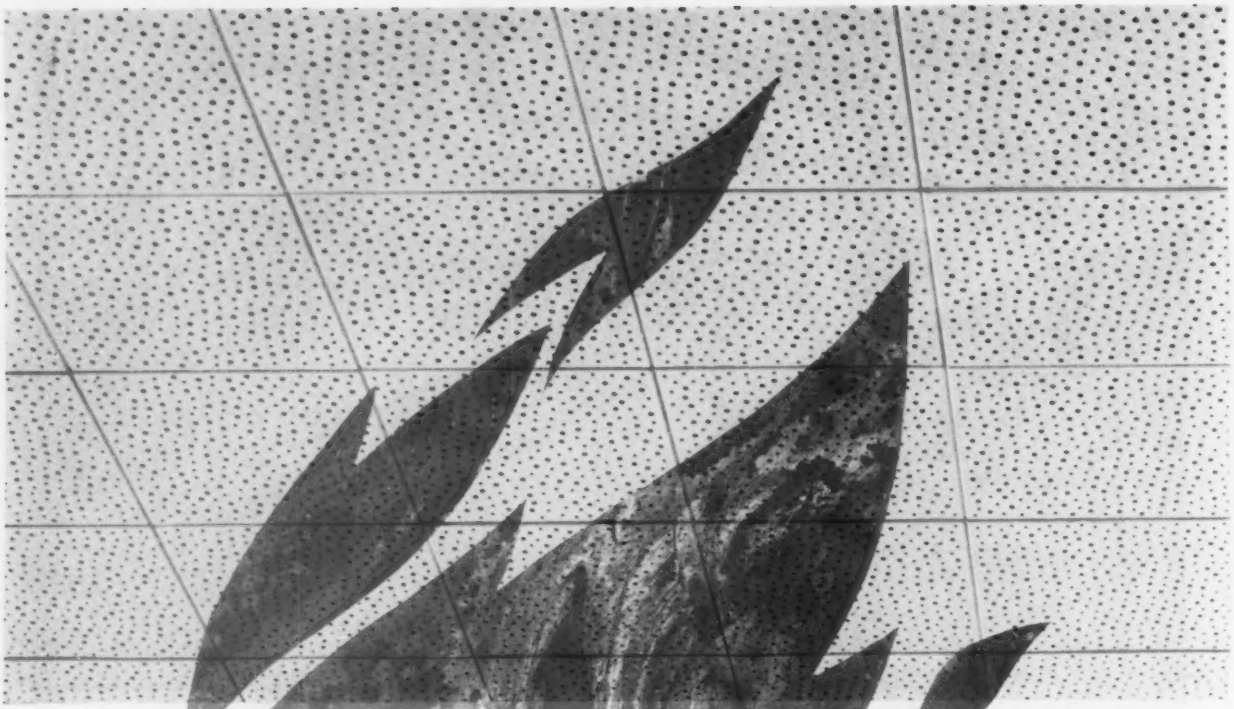
Compact, light-weight outdoor fixture utilizing new "pencil size" QUARTZLINE® lamps. Up to 10 times more light per square foot. Lower initial, installation, maintenance and operating costs.

®General Electric Co., Inc.

*WHEELER REFLECTOR* WR

*Company • Division Franklin Research and Development Corp.*

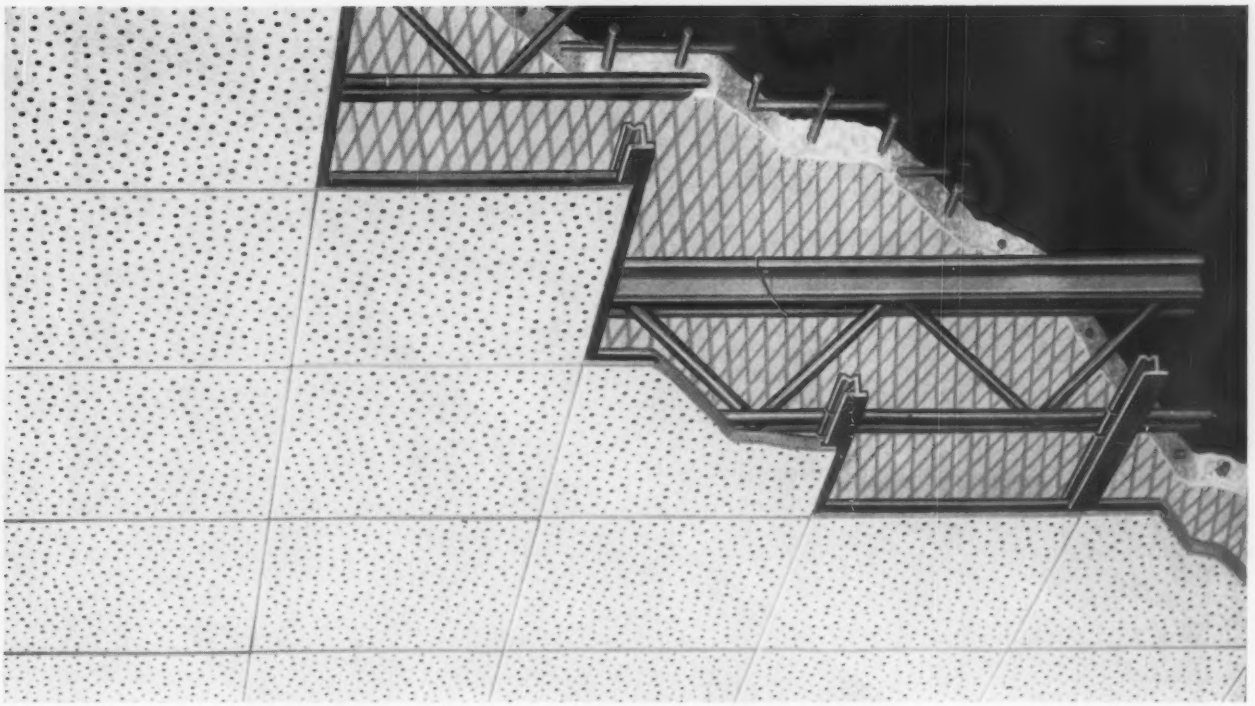
HANSON, MASSACHUSETTS CYpress 3-6351



*New fire-protection economy with*

*Add a third dimension*
*to ceiling installations...*
*beautify, sound condition and*
*protect—all at one time*

*FIRE RATED



# *UL-tested Lo-Tone acoustical F/R* tile*

In tests conducted by Underwriters Laboratories, Inc., the Lo-Tone Acoustical F/R tile floor-ceiling assembly afforded superior protection against the passage of flame and transmission of heat, yielding a 2-hour time-design rating. The ⅝″ thick Lo-Tone Acoustical F/R mineral tile actually limited the transmission of 1850° F fire-box temperature to the allowable 250° F rise above ambient for more than 2 hours in this grueling test.

**Cut new construction costs** with this modern fire protection technique. The Lo-Tone Acoustical F/R floor-ceiling system eliminates conventional wet methods of fire protection and provides fast protection to meet building codes.

**Speeds remodeling jobs** where fire protection is required. Lo-Tone Acoustical F/R tile application is *completely dry*. Permits off-hour work without upsetting stores and offices. No moisture nuisance to slow other trades on the project.

**Fire protection is a bonus** . . . over and above Lo-Tone Acoustical F/R tile's *enduring beauty of ceiling design* and *excellent acoustical properties.*

**Helps trim insurance rates** by giving owners bonus fire protection above requirements of many local building codes. Often gives more protection than more expensive alternate methods.

Available in 12″ x 12″ sizes, Lo-Tone Acoustical F/R tile gives you truly enduring protection and enduring beauty for the years to come. Write today for "AIA File 39-B" for detailed information about this new economical floor-ceiling system: Wood Conversion Company, Dept. 67, St. Paul 1, Minnesota.

AVAILABLE PATTERNS:

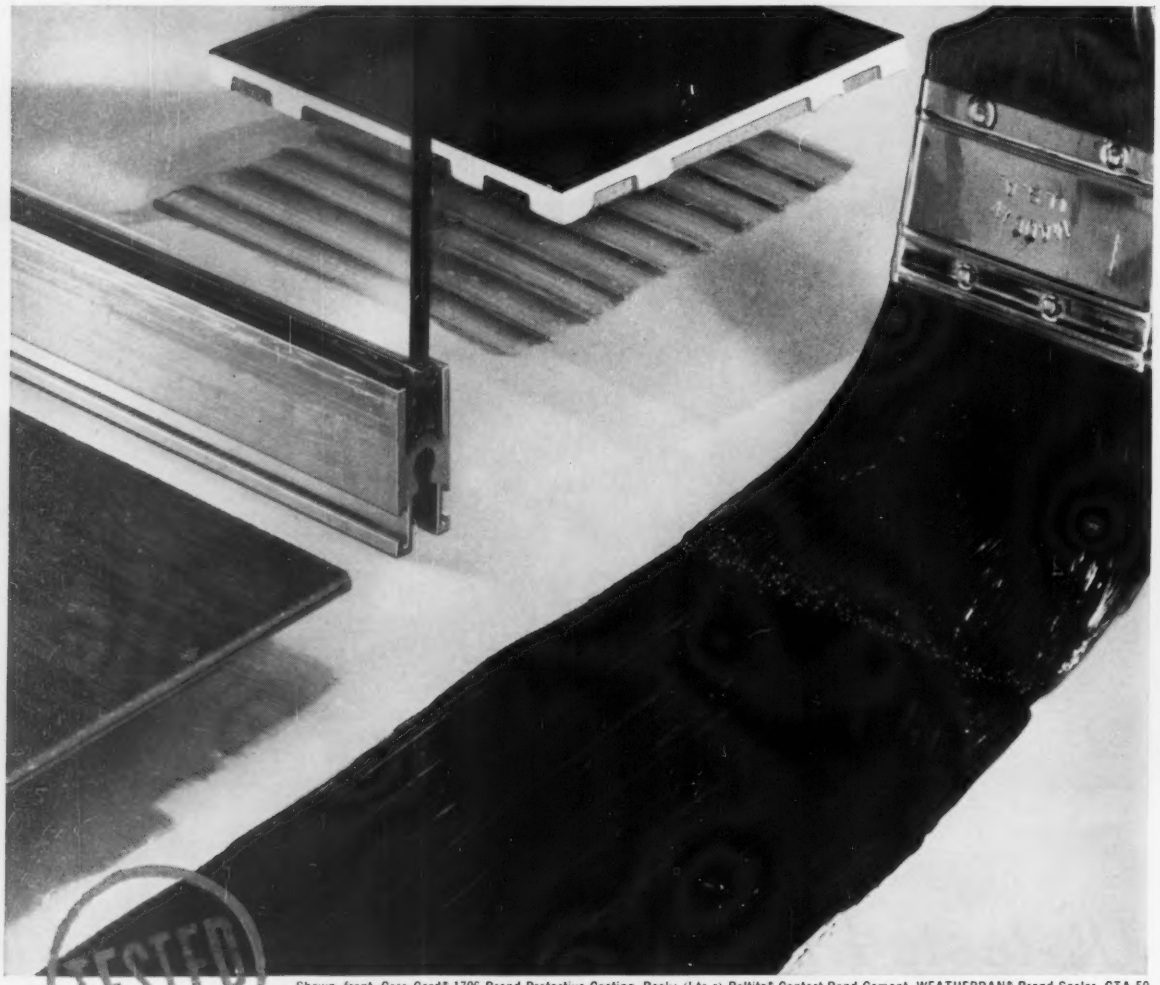
RANDOM CONSTELLATION FISSURED

LO-TONE® ACOUSTICAL F/R

MINERAL TILE



For more information, turn to Reader Service card, circle No. 321




Shown, front, Coro-Gard® 1706 Brand Protective Coating. Back: (l to r) Roltite® Contact Bond Cement, WEATHERBAN® Brand Sealer, CTA-50

# PROVED! 3M gives you a complete line of quality adhesives, coatings and sealers for building

For example: **WEATHERBAN® Brand Sealer** has proven flexible and strong after 10 years' weather exposure. It outlasts conventional caulking many times over, provides excellent weather resistance without shrinkage for masonry, glass, aluminum, curtain wall construction.

**3M Ceramic Tile Adhesive** CTA-20 supports more than ½ ton per tile after 7 days' water immersion. Together with its solvent base counterparts—CTA-11 and CTA-12 plus water-dispersed CTA-50—it offers strength and water resistance from 100% to 900% above standard requirements.

**Roltite® Water Base Contact Cement**—for plastic laminates and plywood, was developed to end special safety precautions. Nonflammable during application, it offers good workability, plus good heat and water resistance.

**Coro-Gard® 1706 Brand Protective Coating** gives longer life to rain gutters, downspouts, concrete walls, metal roofs, wood storage sheds, and similar surfaces. Resistant to water, oil, acids, alkalis and weather extremes, it has been thoroughly proved in the laboratory and in field use.

Use 3M building products with complete assurance that they provide the best in durability, consistent quality and long-range economy. For free literature, see your 3M distributor. For more information, see Sweet's Catalog, or write: AC&S Division, 3M Company, Dept. SBC-90, St. Paul 6, Minnesota.

"Coro-Gard," "WEATHERBAN" and "Roltite" are Reg. T.M.'s of 3M Co.

ADHESIVES, COATINGS AND SEALERS DIVISION

MINNESOTA MINING AND MANUFACTURING COMPANY

...WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

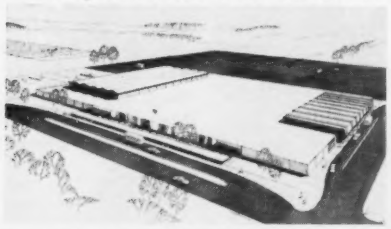


For more information, turn to Reader Service card, circle No. 322

## AIR/TEMPERATURE

### Research-Study School Presented in Report

*Environment for Learning* is a 20-page report on a research study in secondary-school design. The school that emerged from the study is described in detail, with plans and renderings, and compared with the conventional school on which its educational specifications were based. The



research school clearly demonstrates the value of fresh concepts and new approaches to school planning; in particular, cost comparisons point up many advantages of the flexible, compact "EFL" school. Study was conducted by Goleman & Rolfe, AIA, architects and engineers of Houston, Texas. Carrier Corporation.

*On Free Data Card, Circle* **200**

### Radiant Panel Heaters Of Shatterproof Design

Data sheet, 2 pages, describes "Texsun" radiant electric panel heaters, the only shatterproof glass units on the market. Panel heaters may be installed in wall or ceiling, are safe to the touch, clean, and economical. Units are of simple and handsome design, suitable for installation in a variety of interiors. Information is supplied for 5 models. Electric Heating Corporation.

*On Free Data Card, Circle* **201**

## CONSTRUCTION

### Use of Computers In Civil Engineering

A new, 11-page index of G-15 computer programs in civil engineering is available. The index contains an extensive listing of applications prepared by G-15 digital computer users, and submitted to the Bendix Users' Exchange Library. Programs in the following categories are represented: traffic, surveying, earthwork, culverts and sewers, soils, interchange, bridges and piers, beams, columns, section properties, miscellaneous analysis, and hydraulics. Companion literature, *Organizational Problems Encountered in Setting Up a Computer*, is a 20-page article presented at the Structural Engineering Conference at the University of Illinois in 1958. It is based on experiences of civil-engineering consultants with electronic computers. The Bendix Corporation.

*On Free Data Card, Circle* **202**

### Landscaping Ideas In Redwood

*Garden Redwood Ideas from California*, 16 pages, is a potpourri of imaginative designs for outdoor living. Pho-

tographs and lengthy captions present a variety of outstanding decks, benches, screens, overhead shelters, planters, bridges, walks, and fences by noted designers. Notes on the last two pages define the grades of garden redwood, and describe fastening and post-setting methods. California Redwood Association.

*On Free Data Card, Circle* **203**

### Compilation of Brochures On Structural Components

Spiral-bound book, 106 pages, compiles all current building-product literature of company. Complete data is given on insulated metal curtain walls, metal-clad fire walls, rolling steel doors, electrified floors, long-span decks, steel roof decks, acoustical and troffer forms, acoustical ceilings, structural steel, and steel-plate components. Specifications, construction details, and appropriate technical data are included for each type of product. The R. C. Mahon Company.

*On Free Data Card, Circle* **204**

### Manuals Discuss Wood for Residential Construction

Two comprehensive, well-designed manuals on wood have been published —*Wood Frame Construction for Residential Buildings*, 48 pages, and *Post and Beam Construction for Residential Buildings*, 32 pages. Each is a readable and thorough discussion of its subject. Many isometric drawings and considerable text give full details on framing; complete beam tables are also included. Canadian Wood Development Council.

*On Free Data Card, Circle* **205**

### Modular System For Steel Buildings

*AmBridge Modular Schools* describes a system of modular steel components utilized in a number of school buildings. Booklet, 20 pages, enumerates design and construction advantages, among them the speed of erection: 17 weeks from foundation to completion. Structural components shown in section include open-web joists, trusses, square tubular columns, and corrugated roof deck; sample colors for exterior and interior panels are also shown. Modular system has recently been used in U.S. Post Office at New Hyde Park, N.Y., representing first use in non-school construction. American Bridge Division, United States Steel Corporation.

*On Free Data Card, Circle* **206**

### Comprehensive Manual On Perforated Metals

*Architectural Handbook of Perforated Materials* provides complete design and technical information on full line of products. While handbook concentrates primarily on the heavier-gage

grills, it also presents a variety of decorative designs in lighter-gage materials. Each grill is displayed in overall pattern, and is accompanied by technical information, detail drawings, and tables in a separate section of the

64-page book. The Harrington & King Perforating Company, Inc.
*On Free Data Card, Circle* **207**

## Lead Pads Used for Vibration-Free Buildings

An illustrated 4-page brochure shows several examples of the use of lead-asbestos pads to reduce or eliminate vibration in buildings adjacent to railways, subways, or other heavy traffic areas. Among the examples described is the new 54-story Union Carbide Building in New York, N. Y. Step-by-step photos show the operations of placing, positioning, and grouting one of the 115 pads used. Typical engineering drawings and specifications for this building, other American buildings, and several Canadian projects are also included. Lead Industries Association.
*On Free Data Card, Circle* **208**

## New Aluminum Soffit Available in Rolls

A new simple-to-install ventilated-aluminum soffit system, developed through extensive research and job-site tests, has been announced. Pre-finished with a new, more durable baked-on enamel, the new soffit system eliminates peeling and warping of vulnerable eave overhangs, and eliminates the need for frequent repainting. The system is installed by cutting the soffit material (in 50′ rolls) to required length and slipping it into place through aluminum supporting channels that are nailed to the building. A flexible plastic rod is then pressed into place to hold edges of the soffit sheet. Application of product is fully explained in 8-page booklet. Soffit material, crimped and stucco-embossed, is available in perforated and non-perforated form, in widths up to 48″. Reynolds Metals Company.
*On Free Data Card, Circle* **209**

# DOORS/WINDOWS

## General Information On Weatherstripping

*What You Should Know About Interior and Exterior Weatherstripping* is the title of an informative new 14-page booklet. Published in the interests of improving building methods, it is not a sales booklet for specific products. Description of general types and materials is followed by recommendations for weatherstripping against dust, noise, drafts, leaks, and light. Pemko Manufacturing Company.
*On Free Data Card, Circle* **210**

# ELECTRICAL EQUIPMENT

## Suggested Methods for Residential Lighting

Forty ways to use lighting in the home are shown in *The Light Side of Decorating,* a new booklet published by the manufacturers of "Luxtrol" light controls. Included are at least four lighting schemes for every room type, all designed by C. Eugene Stephenson, FAID, internationally-known designer and authority on residential lighting. The 36-page booklet contains full-color sketches of its well-lighted rooms, each keyed to wiring diagrams and installation sketches. A directory shows how to build and install such features as valances, brackets, coves, etc. Write (enclosing $.25) to: Superior Electric Company, Bristol, Conn.

## Comprehensive Book On Signaling Systems

A new 88-page manual describes air and electric signal systems and lists specifications of horns, bells, buzzers, chimes, and sirens. Included in the new publication are sections on gravity-drop and lamp-type annunciators, and accessory equipment such as door openers and clocks. Selection of the proper type of signal for various background noise levels and work areas is illustrated by charts and diagrams. Sperti Faraday, Inc.
*On Free Data Card, Circle* **211**

## New Lighting Fixtures Described in Folders

Three new 4-page brochures—entitled *Exit and Aisle Lights, Opal Luminaires,* and *Opal Drum Lights*—are now available. UL-approved exit lights described in first brochure can be either incandescent or fluorescent and are furnished with unbreakable glass-fiber lens panels. The opal luminaires are produced in both pendant and spin-up fixtures, in satellite, spheroid and sphere shapes. Opal sphere post lights, designed for outdoor use, have a special weatherproof gasket and are base-tapped for 1″ pipe mounting. The third brochure describes round and square opal drum lights having hand-blown "Thermopal" glass hinged to a "Dielux" diecast aluminum pan. Technical information on dimensions, construction, and performance accompanies illustrations. Prescolite Manufacturing Corporation.
*On Free Data Card, Circle* **212**

## Data on Lighting Levels

A new edition of the booklet *Footcandle Levels and Interior Lighting Design* is now available. The 60-page, pocket-size manual contains valuable information on modern lighting practices for various types of luminaires and light sources. A table indicates the recommended lighting level for an extensive list of room types. Write (enclosing $.10) to: Westinghouse Lamp Division, P.O. Box 388, Bloomfield, N. J.

# FINISHERS/PROTECTORS

## Directions for Urethane Wood Finishes

*Urethane Coatings for Wood,* 3 pages, describes two clear-resin systems for producing highly-durable finishes that protect and enhance the natural grain of wood. Bulletin, unillustrated, gives data on preparation of surface, application, and coverage. B. B. Chemical Company.
*On Free Data Card, Circle* **213**

# INSULATION

## Installation Systems For Acoustical Tile

*Mechanical Attachments for Erecting Acoustical Tile,* 12 pages, presents 10 "Securitee" systems, each depicted with full-page isometric and sectional drawings. Systems included are 1½″ channel, H-section clip, line exposed, line concealed, strip panel, T & G. Short-form specifications are provided. W. J. Haertel & Company.
*On Free Data Card, Circle* **214**

## Sound Data for Partitions and Floors

For the first time in MLMA technical bulletins, information on sound-transmission loss is available on a resilient-clip system used in conjunction with

*Continued on page 101*

# SUDDENLY IT'S QUIET!

*Forestone Fissured Texture Acoustical Tile*

Whenever you're in a quiet room—look up. If there's a beautifully textured acoustical ceiling, chances are it's Forestone*. *The sounds you never hear* are absorbed by Forestone. This deep-etched woodfiber tile meets Class C requirements of Federal Specification SS-A-118b . . . exclusive Biotox processing protects it against termites, mildew and mold. Forestone is available in four distinctive textures for all types of installations including ceiling boards for grid systems. Refer to Sweet's File or call your Simpson Certified Acoustical Contractor (look under Acoustical Materials in the Yellow Pages) for full information. Write for folder: Simpson, 2004J Washington Bldg., Seattle 1, Washington.

Simpson Forestone. quiets rooms . . . beautifully

RELY ON SIMPSON—QUALITY SINCE 1895

SAC-07/3451 *Reg. U. S. Pat. Off. - U. S. Pat. No. 2,791,289

# You mean they're <u>both</u> heavy duty?

• There's no mistake. They're both listed as "heavy duty." And that's ridiculous. The whole trouble is that no one ever set up a yardstick for folding partition specifications. Anything heavier than standard is called heavy duty.

We think heavy duty should mean just one thing: a partition designed and built . . . from top to bottom . . . to handle all the stress, weight and abuse you get on big jobs. That's our yardstick. And we've spelled out ten particulars. We've pinpointed what a partition needs to be heavy duty. We've illustrated what we offer. And what competition offers. All in a four-page book that's yours for the asking. Just fill out the coupon below.




**New Castle Products, Inc.** DEPT. J 320
New Castle, Indiana

*Gentlemen:* Please send me your book on heavy duty partitions.

Name _____

Address _____

City _____ State _____

*In Canada:* New Castle Products Canada, Ltd., St. Lambert, Que.

modernfold
DOORS
®

*Continued from page 98*

a prefabricated-metal-stud assembly. *Sound Insulating Partitions and Floors,* 4 pages, advises that the degree of sound resistance desired is influenced by factors other than those involved in the selection of a construction assembly. Location is important, according to the text, because an area adjacent to a busy street, for instance, has higher noise-making levels than a room in isolated areas. Illustrated tables give figures on sound-transmission reduction for solid and hollow partitions and for floors of various construction. Metal Lath Manufacturers Association.

*On Free Data Card, Circle* **215**

## Guide to Effective Use Of Thermal Insulation

*Re-thinking Thermal Insulation,* new 16-page booklet, is a guide to the best use of thermal insulating materials. It emphasizes the "economic thickness" approach to specification, which enables management and engineers to determine the point at which an insulation gives the greatest financial return for its cost. Characteristics of different types and purposes of insulation are given in detail, and the question of surface temperature determining insulation thickness is reviewed. A worksheet for calculating economic thickness is included. National Insulation Manufacturers Association.

*On Free Data Card, Circle* **216**

# SANITATION/PLUMBING

## Plastic Drain Fittings Presented in Folder

Literature on plastic drain and sewer fittings, 6 pages, shows available sizes and types of fittings in large-scale photographs, and presents the five easy steps of installation. Advantages of the material are its light weight—one-tenth that of cast iron—and its ease of handling—joints do not need threading but are simply joined with solvent. Sloane Manufacturing Company.

*On Free Data Card, Circle* **217**

## Complete Data on Underground Sprinklers

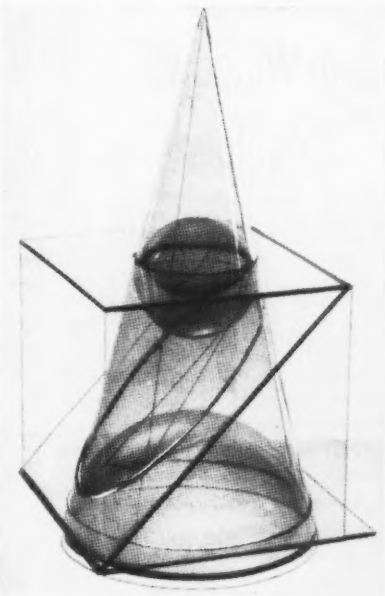
*Keeping Lawns Beautiful* gives essential operating data, specifications, and suggestions for use of 16 different underground sprinkler heads. The various patterns and sizes—including squares, rectangles, and circles—are described, with coverage, discharge, and pressure data. Catalog, 24 pages, enumerates all accessories needed for complete installations. Rain Jet Corporation.

*On Free Data Card, Circle* **218**

# SPECIAL EQUIPMENT

## Plastic Models Aid In Studying Shapes

New 40-page catalog, *Mathematical Models for Teaching,* illustrates hundreds of three-dimensional, clear-plastic models in Guenter Herrman line



now being distributed in U.S. Models are grouped topically under the subjects of: plane, solid, and analytical geometry; curve-drawing appliances; projections, elevations, traces, and intersections; interpenetration of solids. Transparency of the models enables one to see not only the external shape, but also concealed edges, enclosed intersecting planes, and internal dimensions. Arthur S. LaPine & Company.

*On Free Data Card, Circle* **219**

## Compilation of Articles On Furniture Woods

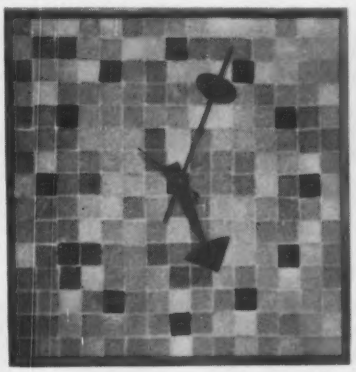
*Fine Furniture Woods,* a 24-page reprint of this association's articles that were published in a consumer magazine, is a handsomely-presented collection of interesting facts on walnut, cherry, maple, birch, oak, and the more exotic woods. In readable fashion booklet discusses the use of the particular wood in early days, the properties that suit it for its special uses, and the

range of possible finishes. Full-page sketches show the shape of the mature trees; smaller photographs show distinctive pieces of wood furniture. Fine Hardwoods Association.

*On Free Data Card, Circle* **220**

## Stylized Faces For Institutional Clocks

After a comprehensive survey of architects suggested high styling in clock systems, 15 new clock faces have been designed for "ClockMaster" system.



The unusual designs, shown in 8-page booklet, are a collaboration between the Howard Miller Clock Company and Minneapolis Honeywell, and are designed by George Nelson. ClockMaster system is used in hospitals, schools, banks, and offices. Minneapolis Honeywell.

*On Free Data Card, Circle* **221**

## Street Zoos Offered With Play Sculpture

Street zoos are the latest items of playground equipment featured in 32-

*Continued on page 102*

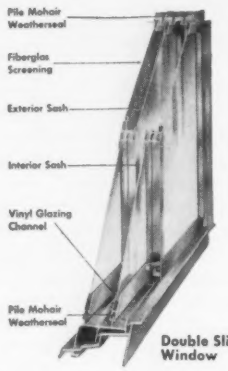
*Architect: James, Meadows and Howard, Buffalo, N. Y.*

# Modern Fleetlite Sliding Windows Chosen for Tower Dormitory on the University of Buffalo Campus

Rising eleven floors above the University of Buffalo campus is the new Tower Dormitory... a masterpiece in concrete, brick and colorful terra cotta with row upon row of Fleetlite Aluminum Double Windows.

In planning this campus home for over 400 student residents, University authorities selected Fleetlite double windows for reasons of both comfort and economy. By a simple adjustment of the interior and exterior sliding sash, students may enjoy indirect ventilation regardless of the weather. No stuffy rooms, no drafts, no possibility that rain or snow will damage furnishings.

Fleetlite double windows also mean double economy. A "blanket of air" insulation between the sash results in more efficient heating and subsequent fuel savings. At the same time, there is economy in maintenance. Durable aluminum requires no painting; vinyl plastic replaces putty; and, since all sash may be removed from the inside for cleaning, costly and dangerous outside window washing is eliminated.




Double Sliding Window

Territories open for qualified Sales Representatives. Direct representation in Canada.

FLEET OF AMERICA, INC.
Dept. PA-90, 2015 Weldon Avenue
Buffalo 25, New York

Please send complete Fleetlite window information.

Name_____

Address_____

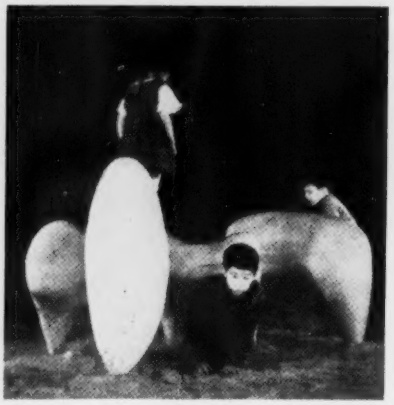
City_____ State_____

Fleetlite
AMERICA'S finest WINDOW ®

**Aluminum Windows**
**Sliding Glass Doors**
**Jalousie Windows and Doors**

For more information, turn to Reader Service card, circle No. 325


*Continued from page 100*



page catalog. Units are galvanized tubular steel, with a glass-fiber teardrop shape that holds a 30"-diameter animal cage or a plastic display unit. Catalog also includes photos of standard items—such delightful pieces as turtle tents, tunnel bridges, fantasy villages, and play façades. Prices, weights, and installation information are noted. Creative Playthings, Inc.

*On Free Data Card, Circle* **222**

## Recent Installations Of Thonet Furniture

Handsome spiral-bound brochure, 24 pages, shows some of the recent designs of this 130-year-old firm. Color photographs of prominent public installations are contrasted with free sketches of the most famous of Thonet's masterpieces, in an excellently-designed promotional booklet. The booklet is not a catalog of the complete line, but will be a source of pleasure to anyone who enjoys fine design in both product and literature. Thonet Industries Inc.

*On Free Data Card, Circle* **223**

## Expanded Line of Solar-Screen Grills

Expanded line of "Ceramic Veneer" grills, used for solar screens, is shown in new 8-page brochure. The augmented line now includes 12 standard units,

*Continued on page 106*

You are looking at a facade detail of Union Carbide's Engineering Building at South Charleston, W. Va. This is one structure in a complex known as the Technical Center, designed for the principal purpose of giving Union Carbide's technical people inspiring and efficient surroundings in which to create and produce new products and processes. Similarly, the six elevators installed in these buildings are the product of inspired technology and patient attention to detail. Manufactured by Dover Corporation's Electric Elevator Division (formerly the Shepard Elevator Division) they deliver a high level of operating performance and dependability. All major components—motors, gears, housings, controls—are made by Dover (photo below) to precise standards. Write for data.

DOVER CORPORATION
Electric Elevator Division
5051 Brotherton Road, Cincinnati 9, Ohio

DOVER

# DOVER ELEVATORS

**Fine elevators since 1861**

For more information, turn to Reader Service card, circle No. 326

# STAIN . . . OR PAINT?

Architect: Pietro Belluschi, Cambridge, Mass.
Builder: Eichler Homes, Palo Alto, Cal.
Cabot's Stains on exterior & interior

To answer this question, an architect weighs the advantages and limitations of each against the job at hand . . . effect, durability, and cost on wood surfaces inside and outside the home. Cabot's Stains, for example, answered all requirements for the home above. Here are the reasons for today's architect-led trend toward stains:

## Cabot's STAINS

- Economical — ½ the cost of paints.
- Trouble-free — no cracking, blistering, or peeling.
- Offer unique color effects in a wide color range.
- Grow old gracefully, may be stained or painted over later.
- Penetrate deeply, dyeing and preserving the wood fibers.
- Enhance the beauty of the wood grain; leave no brush marks.
- Require no priming coat; are easier to apply and maintain.
- Need no thinning; surfaces need no scraping or sanding.

**For best results, the best in Stains . . . Cabot's Oil-base or Creosote Stains.**

**SAMUEL CABOT INC.,**
928 South Terminal Trust Bldg., Boston 10, Mass.
Please send color cards on Cabot's Stains.

_____
_____
_____

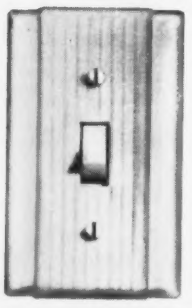
For more information, turn to Reader Service card, circle No. 327



# P&S ROCKER-GLO

SKIDMORE, OWINGS & MERRILL ARCHITECTS
•
GUY B. PANERO ENGINEERS MECHANICAL & ELECTRICAL CONSULTING ENGINEERS
•
ROGERS ELECTRICAL SERVICE, INC. ELECTRICAL CONTRACTOR
•
GEORGE A. FULLER COMPANY GENERAL CONTRACTOR
•

Rocker-Glo, 2251



## Quality you can measure by Performance

Sparkling new Libbey-Owens-Ford Building in Toledo, Ohio, rises 15 floors above street level. New, modern, 20-ampere, Rocker-Glo switches control the lights used in all office areas.

P&S Rocker-Glo can be used on fluorescent and tungsten filament loads at full current rating. Quiet in operation, it is smoothly activated by pressing, pushing, rocking or rolling.

Note: P&S Super AC Switches (20AC1) were also used in this building in all hallways and laboratories.

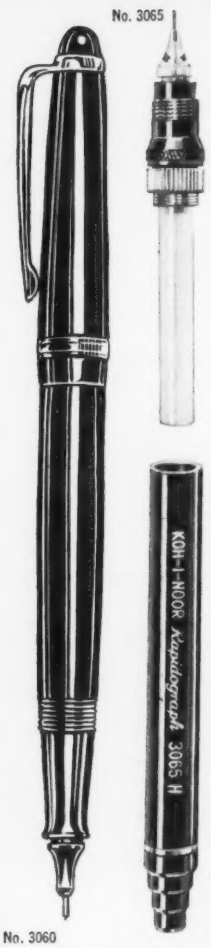
For information, write Dept. PA-96

PERFORMANCE SPECIFIED

P&S PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK
60 E. 42nd St., New York 17, N. Y. 1440 N. Pulaski Rd., Chicago 51, Ill.
In Canada: Renfrew Electric Co., Ltd., Toronto, Ontario

For more information, turn to Reader Service card, circle No. 328

# KOH-I-NOOR
## PRECISION MATCHED INSTRUMENTS




Koh-I-Noor offers draftsmen an important new dimension in a comprehensive line of instruments and accessories meticulously matched to provide new high levels of professional performance, efficiency and convenience.

### NOW... TWO KOH-I-NOOR RAPIDOGRAPH TECHNICAL FOUNTAIN PENS

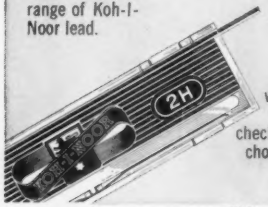
In 7 "color-coded" precision line widths: 00, 0, 1, 2, 2½, 3, 4. Uses India (or regular) ink for ruling, lettering, tracing or writing with equal facility.

**MODEL NO. 3065:** A new model with 7 interchangeable drawing point sections, each color-coded to indicate a different line width. Best buy for the professional who requires frequent change of line widths. Each drawing point section complete with airtight refillable ink cartridge. Interchange is accomplished quickly, cleanly. Comes in handy desk top container.

**MODEL NO. 3060:** The regular Koh-I-Noor Rapidograph "Technical" Fountain Pen with self-contained automatic filling system, and pocket clip is a standard drafting room tool.

Two Koh-I-Noor products designed to work together . . . for greater efficiency!

**KOH-I-NOOR**
**ADAPTO-CLUTCH LEAD HOLDER**
Non-slip, turn-proof clutch takes full range of Koh-I-Noor lead.




**KOH-I-NOOR**
**EJECTOMATIC LEAD DISPENSER**
Automatically feeds lead to holder without need to touch lead. Transparent container permits constant inventory check on lead supply. In 17 degrees. Widest choice of containers with 2, 6 and 12 leads

Write for catalog

## KOH-I-NOOR PENCIL CO., Inc.
BLOOMSBURY 2, NEW JERSEY

For more information, turn to Reader Service card, circle No. 329

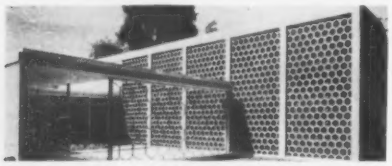
Who put the Queen's crest on the carpet? It all started when a Long Island caterer, Queen's Terrace, wrote us for carpet designs for one room. There, on their letterhead was a lovely little crest. Result? Commercial Carpet so regal, Queen's Terrace ordered hundreds more yards for more rooms and branches! No extra charge, of course, for Magee's Commercial Carpet Design Service. To get it, wire or write,

magee
COMMERCIAL CARPETS

THE MAGEE CARPET COMPANY, 295 FIFTH AVENUE, N.Y. 16, N.Y.

For more information, turn to Reader Service card, circle No. 330

*Continued from page 102*



in unlimited choice of ceramic colors, and gives wide variety of design possibilities wherever a perforated façade is desired for sun control, ventilation, privacy, or appearance. Booklet shows each design, in isometric view of single unit, and in elevation view of over-all pattern; several designs are shown in completed buildings. Federal Seaboard Terra Cotta Corporation.

*On Free Data Card, Circle* **224**

## Closed-Circuit TV Without Cameras

A specially-designed, closed-circuit television transmitter produces a sharp, intense image without using camera or lighting equipment. By eliminating the camera and substituting a unique method of detecting and transmitting image-brightness differences, "Scan-A-Graph" reduces the focusing and distortion problems of conventional systems. Scan-A-Graph insures instant and accurate visual communication with as many as 500 locations simultaneously. Operating procedures are simple, and no specially-trained personnel are required. Brochure, 4 pages, describes features and operation of system. Television Utilities Corporation Division, Nord.

*On Free Data Card, Circle* **225**

## SURFACING

## Specifications for Installing Vinyl Tile

A revised set of *Installation Specifications for Vinyl Asbestos Tile and Asphalt Tile Flooring* gives a wide variety of information on the proper types of concrete and wood sub-floors. Folder, 4 pages, includes a special note of caution regarding the use of concrete-curing compounds, and indicates plywood types and sizes for sub-floors, various underlayments used to correct rough or uneven sub-floors, and simple maintenance instructions for newly-completed installations. Asphalt and Vinyl Asbestos Tile Institute.

*On Free Data Card, Circle* **226**

## Glazed Brick In Vivid Colors

The 10 vivid colors of a new line of glazed brick, called "Glazed Provincial," are illustrated in 4-page folder. Rugged, unmatched character of the brick provides a warm effect that is distinct from mechanically-perfect surfacing. Many possibilities are suggested for their use—as color emphasis in spandrels, as single mass of color in large wall areas, as small groupings throughout a wall, as a colorful mural. Single data sheets are also available on unique unglazed brick, one (called "Frosty Wirecut") a frosty-surfaced soft red with a gently-aged character. Des Moines Clay Company Division, Goodwin Companies.

*On Free Data Card, Circle* **227**

**PROGRESSIVE ARCHITECTURE**
**NEWS REPORT**

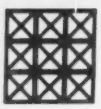
REINHOLD PUBLISHING CORPORATION
430 PARK AVENUE NEW YORK 22, N.Y.

Publisher.....D. Bradford Wilkin
Editor.....Thomas H. Creighton
News Editor .....James T. Burns, Jr.

**H&K**
**PERFORATED METAL GRILLES**
(Send for Grille Catalog)

**H&K**
**Perforated Decorative MATERIALS**
(Send for Catalog 75)

Illustrations shown in reduced size



Harrington & King has been serving architects for 75 years with a wide selection of classic and modern designs in grilles and decorative materials.

H & K grilles are furnished in accordance with your specifications . . . in practically any type and gauge of metal . . . and in the finish desired. Perforations are clean and burr-free, margins are in alignment, and each grille is leveled and inspected before shipment.

H & K decorative patterns, from a vast selection of existing dies, are serving architects in many new and unusual ways. If your plans call for perforated materials, depend on H & K!

**See Sweet's File— 31f/Ha**

FIND NEAREST H&K AGENT in the Yellow Pages

Listed Under "Grilles"

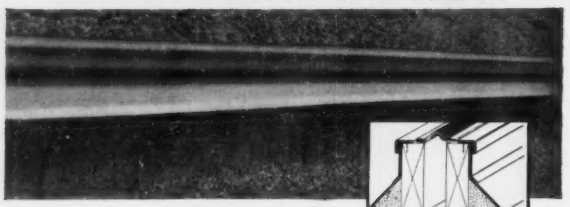
THE Harrington & King PERFORATING CO. INC.

*Chicago Office and Warehouse*
5675 Fillmore St., Chicago 44

*New York Office and Warehouse*
114 Liberty St., Dept. PA, N. Y.

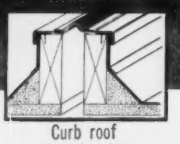
For more information, turn to Reader Service card, circle No. 331

**Solve Your EXPANSION JOINT Problems with *Expand-o-flash* with the NEOPRENE BELLOWS**

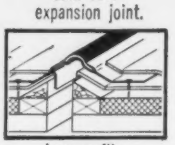


Expand-o-flash is made of weatherproof flexible neoprene, bonded mechanically and adhesively to metal edging and is installed with totally relaxed neoprene bellows to allow both sides of the joint to move freely in any direction. Stresses and metal fatigue are eliminated.

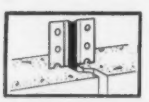
Expand-o-flash provides a continuous watertight seal all around the building both above and below grade.



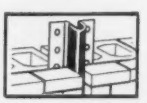
Curb roof expansion joint.



Low profile expansion joint.



Expand-o-flash in vertical walls.



Shop fabricated corners and crossovers eliminate errors in the field and reduce the cost • No training needed for installation • Literature, engineering data and sample on request • See us in Sweet's.

LAMONT & RILEY CO.
300 SOUTHWEST CUTOFF, WORCESTER 7, MASS.

For more information, turn to Reader Service card, circle No. 332

# DAVIDSON Sculpturama PORCELAIN ENAMEL PANELS

## . . . creating new techniques in design

For more information, circle No. 333

In addition to the many advantages inherent in porcelain enamel such as its resistance to weathering, lifetime colors, etc., Davidson Sculpturama Panels offer new design opportunities for new or existing structures.

Basket weave, recessed or projected panels as well as diagonal, square or rectangular panels provide an endless amount of variety in design. This, together with a wide choice of colors and *color* arrangements make Davidson Architectural Porcelain Enamel Panels *the most modern building material.*

Call in a Davidson distributor (listed in the yellow pages under Porcelain Enamel). Let him show you several actual examples of what Davidson Architectural Porcelain offers.

DAVIDSON ENAMEL PRODUCTS, INC.
Subsidiary of Fenestra, Inc. • 1124 East Kibby Street, Lima, Ohio

**Davidson** The World's Largest Producer of Quality Architectural Porcelain for The Building Industry.

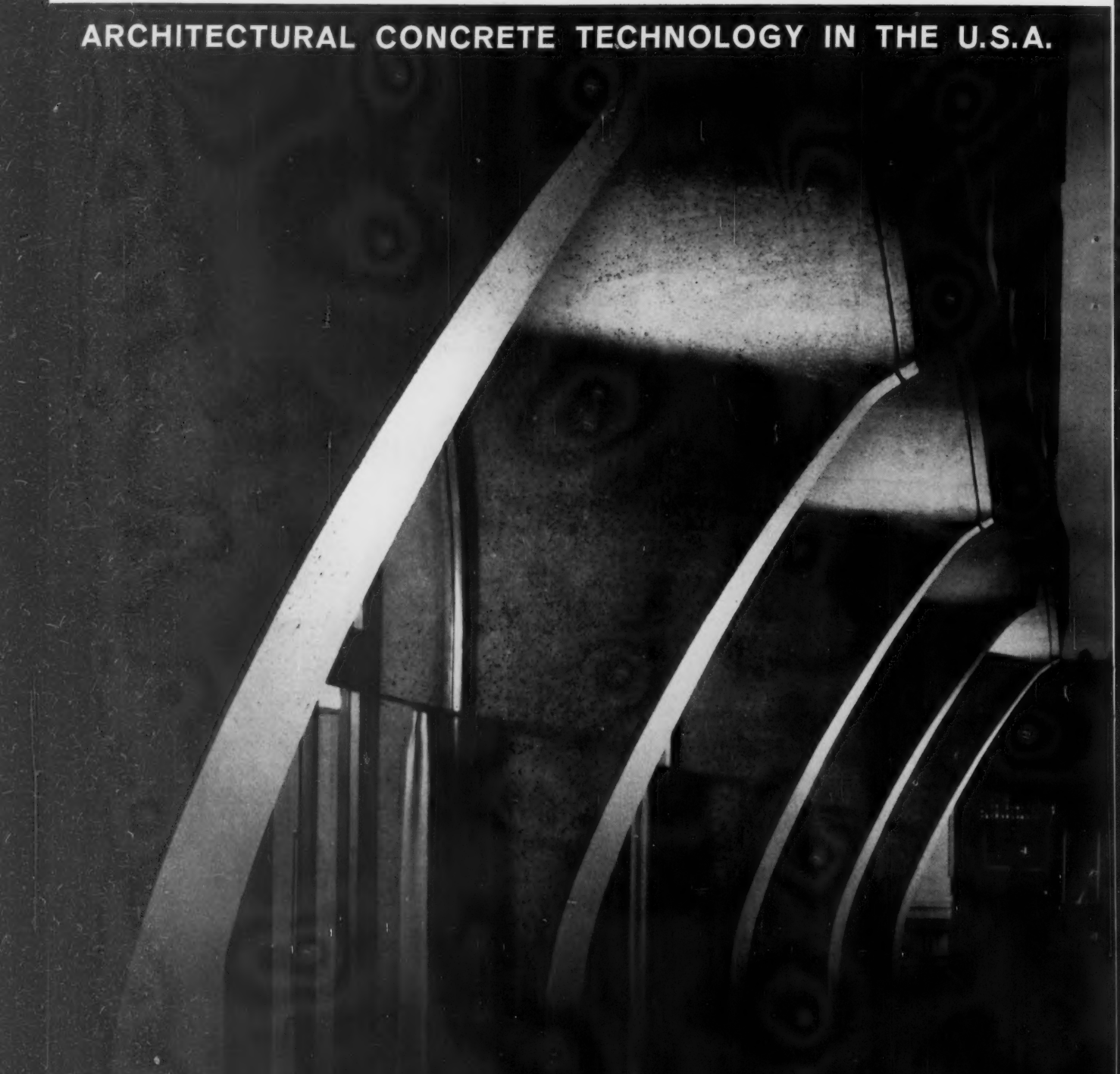
Member:
Porcelain Enamel Institute
Producers' Council, Inc.

The Kaufman Store in Wheeling, West Virginia, was remodeled utilizing Sculpturama and regular facing panels in two shades of green color. Architect—Edgar Kwalwasser, Pittsburgh. General Contractor—Byrum Construction Company, Wheeling.

••• THE MODERN BUILDING MATERIAL

*Coming in October...*

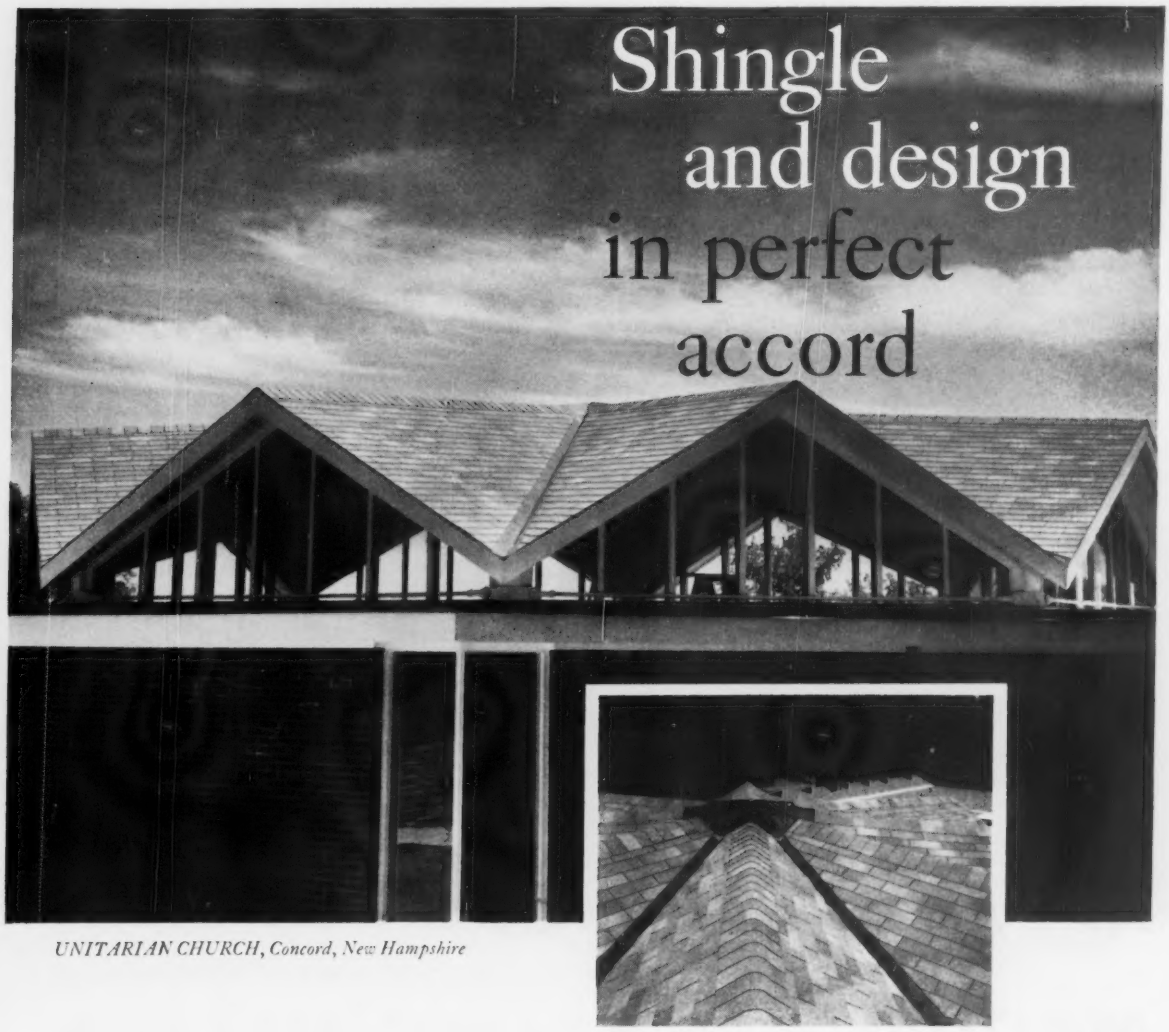
# ARCHITECTURAL CONCRETE TECHNOLOGY IN THE U.S.A.



**THE OCTOBER PROGRESSIVE ARCHITECTURE** brings the reader up-to-date on architectural concrete technology in the United States. From a complete roundup of current design to a review of past concrete use, this outstanding issue covers all the interesting aspects of concrete technology for architecture. **THE ROUNDUP** by P/A's Technical Editor Burt Holmes examines the variety of concrete finishes suitable for exterior and interior use. It also documents the awakening to potentials of exposed concrete and examines some of the techniques and phenomena that are bringing the material into wider use. **PAST CONCRETE USE** includes early examples of all-concrete construction. This historical study by Ada Louise Huxtable demonstrates how architectural designers until recently held concrete construction suitable only for industrial buildings. **THIS SPECIAL ISSUE** includes articles on Cast-in-Place Concrete by Edward L. Freidman, Precast Concrete by August E. Komendant, and the Mercer Concrete Constructions by Ilse Reese. Interior Design Data presents a new interior design element — the strong ceiling pattern created with exposed concrete. **MAKE SURE** you receive every issue of P/A. Use post-free subscription card in this section.

JOHN HANCOCK BUILDING, SAN FRANCISCO, SKIDMORE, OWINGS & MERRILL, ARCHITECTS, PHOTO: MORLEY BAER

**PROGRESSIVE ARCHITECTURE** *430 Park Avenue, New York 22, N. Y.* *A Reinhold Publication*




*UNITARIAN CHURCH, Concord, New Hampshire*

## The BIRD ARCHITECT'S 18" KING-TAB points up the rhythmic lines of this beautiful roof

When the roof is a dominant architectural feature, the special qualities of the magnificent Bird Architect Shingle are more than ever important:

**SLATELIKE BEAUTY,** with depth and rich shadow lines, gives the impact and dignity worthy of a house of worship. The famous Gothic Slate Blende is particularly suited to churches.

**UNIFORMITY OF SURFACING** in even distribution of jumbo color granules is controlled in manufacture — no unsightly application on the site.

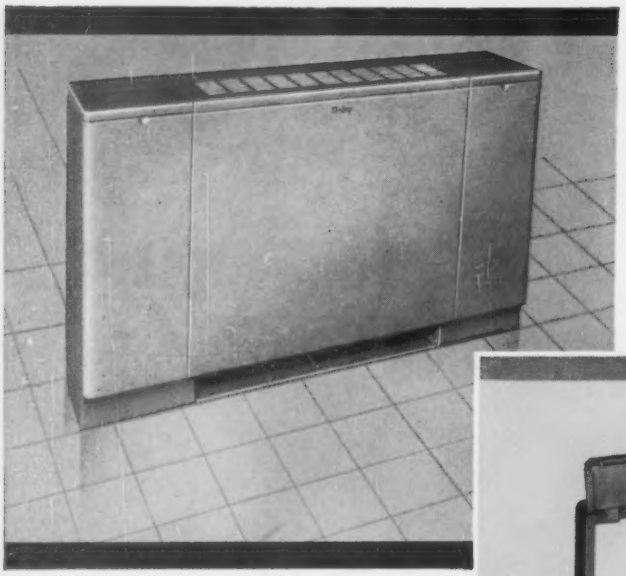
**GREATER SAFETY, TRIPLE PROTECTION:** 300 lbs. per square, thick as standard slate; 3 full layers at every point, with 5" exposure. For use on slopes with pitch as low as 2" in 12".

*See specifications in* SWEETS FILE $\frac{8C}{Bi}$

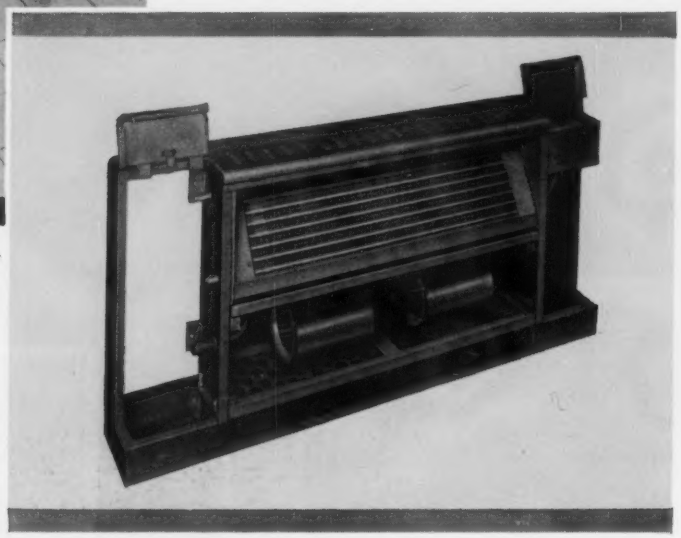
*or write* BIRD AND SON, INC.,
Box AP-9, East Walpole, Mass.
*Charleston, S.C. • Shreveport, La. • Chicago, Ill.*

BIRD
BIRD & SON
*Architect Shingles*

**MOISTURE AND TERMITES A PROBLEM?** *Write for details on Bird Termite Protection System and Vapor Barrier.*



EXTRA LARGE PIPING COMPARTMENTS • COMPLETE SLIDE-OUT FAN DECK ASSEMBLY • MOTOR DISCONNECT PLUG • FIELD REVERSIBLE COILS • FILTER REMOVAL WITHOUT REMOVING PANELS • ADJUSTABLE LEVELING LEGS • REMOVABLE PANELS FOR EASY INSTALLATION • FULL RATED CAPACITY • QUIET, EFFICIENT OPERATION • QUALITY MATERIALS CRAFTED BY QUALITY WORKMANSHIP • BAKED ENAMEL FINISH ON BONDERIZED GALVANIZED STEEL.



You get more built-in quality and performance with McQuay features

# APPRECIATED MOST

*by those who specify, install and use individual room*

# McQUAY *thin-line design* SEASONMAKERS

**NOW**
**4 MODELS**
**7 SIZES**
**220 TO 1240 CFM**

8½" thin, 25" high

McQuay thin-line design Seasonmakers are extremely versatile, dependable and exceptionally easy to work with. That's why engineers, contractors and building operators alike appreciate them most. These remote, individual room units are ideal for apartments, motels, hotels, offices, hospitals or any installation utilizing a central station heating and cooling system. They are available in four types in seven sizes. Floor and basic models are made in sizes from 220 to 1240 cfm; hide-away and ceiling models from 220 to 640 cfm.

Investigate the many advantages these thin-line design McQuay Seasonmakers can offer you on your next job. Contact your local McQuay representative, or write McQuay, Inc., 1638 Broadway Street N.E., Minneapolis 13, Minnesota.

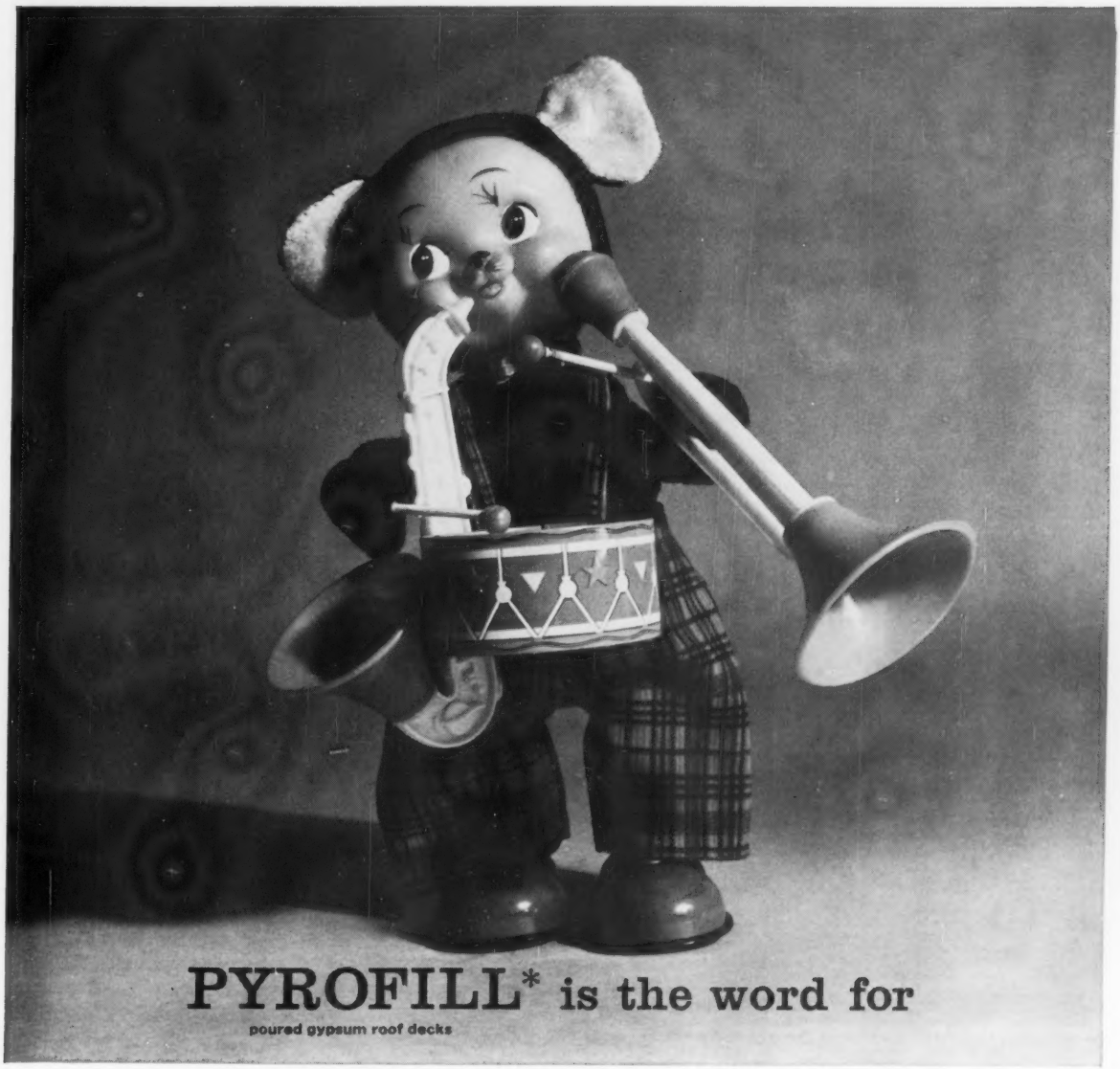
McQuay INC.

AIR CONDITIONING • HEATING • REFRIGERATION

MAKE THE SEASONS COME TO YOU



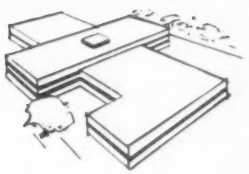
For more information, turn to Reader Service card, circle No. 335



**PYROFILL* is the word for**

poured gypsum roof decks

# VERSATILITY



Here's versatility. A choice of seven USG® Formboards gives you complete control of the performance characteristics of a PYROFILL Roof Deck. You can specify varying degrees of sound control, insulation, fire protection, economy or ceiling beauty . . . in any combination . . . exactly where you want them—*even pinpoint them for different areas of the same building. See Sweets 2d/Un.*

*T. M. REG. U. S. PAT. OFF.

Responsibility for expert application of PYROFILL Gypsum Concrete is centered in a single U.S.G.-approved contractor—a roof deck specialist who is skilled and experienced in all phases of poured gypsum construction.

**UNITED STATES GYPSUM** / *the greatest name in building*

Cocktail Lounge

Men's Card Room

Women's Card Room

**your identity in carpet . . .**

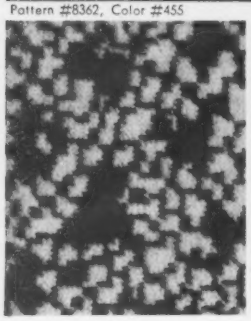
By schooner and skiff . . . by cabin cruiser and cutter . . . more and more Americans each year are going down to the sea in ships, spending, according to Motorboating Magazine, close to 3 billion dollars annually on everything from oars to outboards, and spawning a brand new breed of country clubs-by-the-sea, like the fashionable Coral Ridge Yacht Club, Fort Lauderdale, Florida. Here, carpet in the marine mood sets the decorative pace throughout . . . captured in color and texture in the brilliant blue and white of the main Cocktail Lounge, the warm beige-to-brown ripple pattern of the Men's Card Room and the predominantly orange tweed-textured spatter print of the Women's Card Room.

To develop and execute these special carpet colors and designs, decorator Wayne Davidson worked closely with the contract staff of Archibald Holmes & Son, whose skilled craftsmen are able to interpret ideas quickly, knowingly and at prices that are competitive without sacrifice of quality.

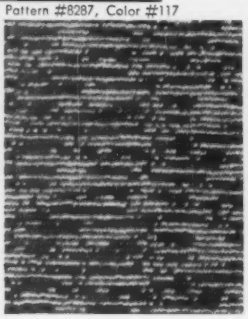
If you, like Wayne Davidson, have a challenging contract carpet problem, why not let us help you? You can prescribe your own custom design or choose from a vast library of distinctive patterns. Write or phone for the name of your nearest Holmes contractor. Archibald Holmes & Son, Erie Ave. & K St., Phila. 24. *Now in our second century of fine carpet weaving.*

*Archibald Holmes & Son*

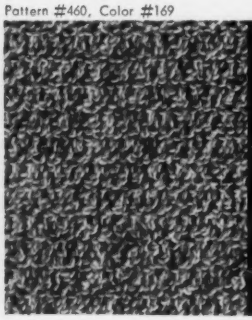
Pattern #8362, Color #455



Pattern #8287, Color #117



Pattern #460, Color #169



*Beautiful Holmes*

CONTRACT CARPETS GUARANTEED MOTHPROOF

Terrazzo made with ATLAS WHITE cement at United Air Lines Terminal, New York International Airport. **Architects:** Skidmore, Owings & Merrill. **Terrazzo Contractor:** Port Morris Tile & Terrazzo Corp., New York.

# Terrazzo for jet-age air terminals

Colorful terrazzo is usually specified for the nation's new air terminals. For this flooring material is durable, economical, easy to clean. Even under the most punishing traffic, terrazzo stays new-looking, safe, beautiful. No waxing or buffing or repairing, only an occasional wet mopping is required. Terrazzo can easily save up to 23¢ per sq. ft. per year in cleaning labor alone.

When planning terrazzo floors, consider the advantages of ATLAS WHITE portland cement. Only a white cement brings out the true color value of aggregates and pigments and assures sharp, vivid floor patterns. Write for brochure showing color reproductions of terrazzo with a white cement matrix; Universal Atlas, 100 Park Avenue, New York 17, N. Y.

**Universal Atlas Cement**
**Division of**
**United States Steel**

"USS" and "Atlas" are registered trademarks

WT-92

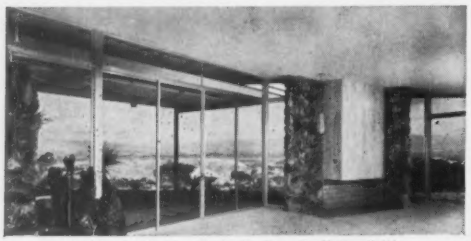
Offices: Albany · Birmingham · Boston · Chicago · Dayton · Kansas City · Milwaukee · Minneapolis · New York · Philadelphia · Pittsburgh · St. Louis · Waco

FOR SLIDING GLASS DOOR DESIGN FREEDOM

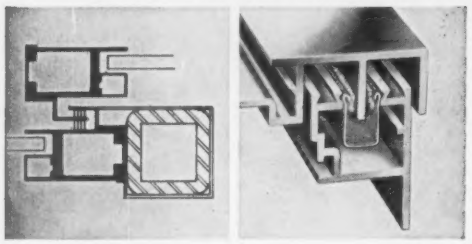
# PUT THE LOAD ON MILLER

Here are sliding glass doors to free your thinking: Miller doors with load bearing columns. Now heavy steel tubes (encased in aluminum) may be incorporated in Miller aluminum frames at the muntin bar, interlockers and meeting jambs—within the depth of sill and head section. Eliminate 4" x 4" columns. Maintain sight lines on extra wide openings. Use smaller headers.

For more information, put the load on a Miller Dealer. Have him show you how to go higher, wider and handsomer with Miller quality load bearing frames.



Architects: Benton & Park, Beverly Hills, Calif
Builder: Henry Salzman, Studio City, Calif.



*(Left).* Detail shows steel tube, aluminum encased, load bearing mullion as integral part of frame.

*(Right).* Weatherseal is more than a part—it's also how the door maker relates it to the total door design. Miller's engineered method results in a smooth, easy sliding door that seals securely around the entire perimeter of opening vent.

Write for catalog & new "Miller View Points" publication. See your dealer, or Sweet's Arch. File 16d/Mi, or Sweet's Light Construction File 5a/Mi.

"BUILT TO LAST A HOUSE TIME"

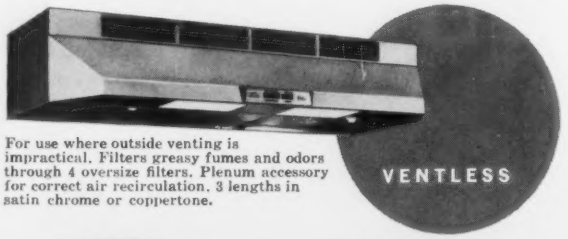
Miller

Miller Sliding Glass Door Co., Inc.
3216-PA Valhalla Dr., Burbank, Calif.
**Eastern Sales Office:** c/o T. F. McGrath Associates, 520 Post Rd., Darien, Conn. OL 5-9721
Member of Sliding Glass Door & Window Institute.
Member of Building Contractors Association.

# The complete hood line...

## by Trade-Wind

*quality—style—efficiency in every price range*

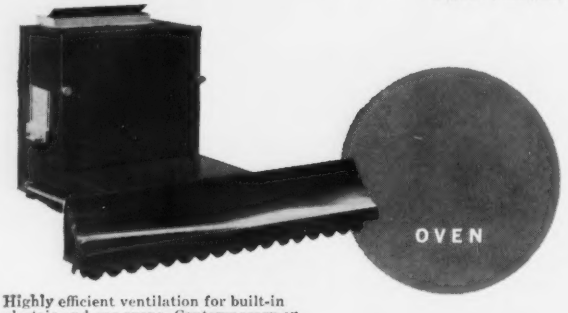


VENTLESS

For use where outside venting is impractical. Filters greasy fumes and odors through 4 oversize filters. Plenum accessory for correct air recirculation. 3 lengths in satin chrome or coppertone.

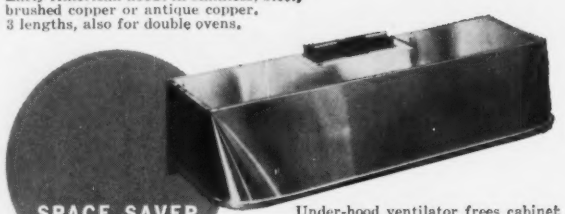
PRE-WIRED

For use with Trade-Wind Nos. 3501, 2501 or 1501 Ventilator. Brilliant contemporary styling in stainless steel, brushed copper or antique coppertone. Also the colonial Salem antique copper. 5 lengths.



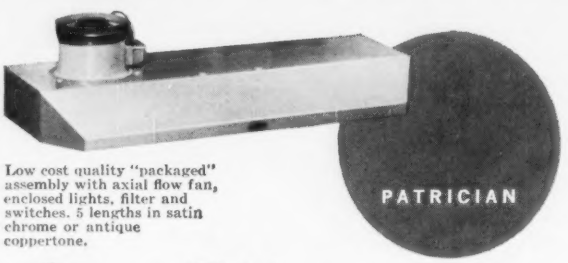
OVEN

Highly efficient ventilation for built-in electric and gas ovens. Contemporary or Early American hoods in stainless, steel, brushed copper or antique copper. 3 lengths, also for double ovens.



SPACE SAVER

Under-hood ventilator frees cabinet space. Latest sheer custom design in genuine stainless steel or real hammered copper. Also Early American design in real antique copper. 4 lengths.



PATRICIAN

Low cost quality "packaged" assembly with axial flow fan, enclosed lights, filter and switches. 5 lengths in satin chrome or antique coppertone.

Trade-Wind

**DIVISION OF ROBBINS & MYERS, INC.**
7755 Paramount Place, Pico Rivera, California, Dept. PA

Sofa covered in Boltaflex Palomino

**Achieve the effect you want... perfectly with**

# Bolta-Floor®

QUALITY VINYL FLOORING

With the new BOLTA-FLOOR color line, design and decorating possibilities are unlimited... your imagination has full reign. And because of its deep, surface-to-surface homogeneous vinyl construction, color and pattern can't fade or wear off. Plan now to step-up to quality, step-up to BOLTA-FLOOR tile or roll goods on your next project. A letter from you today will bring samples and complete information.

**THE GENERAL TIRE & RUBBER COMPANY**
**Building Materials Division • Akron, Ohio**

A PRODUCT OF GENERAL The General Tire & Rubber Company

McKinley School, Allentown, Pa. Built in 1886. Remodeled 1951. Original Pennsylvania Slate Chalkboards still in use.

# Pennsylvania Slate . . . less expensive . . .

*because it is practically everlasting!*

Pennsylvania Slate is a true slate. It is slate clear through! That's why it shrugs off the decades and remains smooth and unfaded, year after year after year. Many Pennsylvania Slate chalkboards now in service in new and remodeled schools were originally installed in older buildings, 25, 50 even 75 years ago.

The lasting dark color of Pennsylvania Slate is kind to young eyes. It retains its high contrast; chalk marks stand out clear and sharp, preventing eye strain.

Write for a copy of SLATE vs. "SLATE", a compendium of comparative physical and chemical tests on true Pennsylvania Slate and imported "slate," conducted at an Experiment Station of a leading Eastern University.

**True Slate (Pennsylvania)*

**Limestone with Slaty Cleavage (Imported)*

**The two photos at right show the results of a comparative aging test, one of the many conducted at the Mineral Industries Experiment Station, Pennsylvania State University.*

NATURAL SLATE BLACKBOARD CO.
THE STRUCTURAL SLATE CO.
Pen Argyl, Pennsylvania

*true slate . . . 500 million years in the making*

Williamson Free School of Mechanical Trades, Media, Pa. Wall Mural in 1⅛" Tile Gems® in 27 Bright, Matte, Crystalline, Decorator and Special Colors. Interior Spandrel: 1⅛" Tile Gems® in 76 Sage Gray, and 58 Vellum. Architect: Massena & duPont, Inc., Edward C. Cooper, Associate. Tile Contractor: United Marble Co., Inc. Color Plate 420.

# Why is ceramic tile becoming so popular?

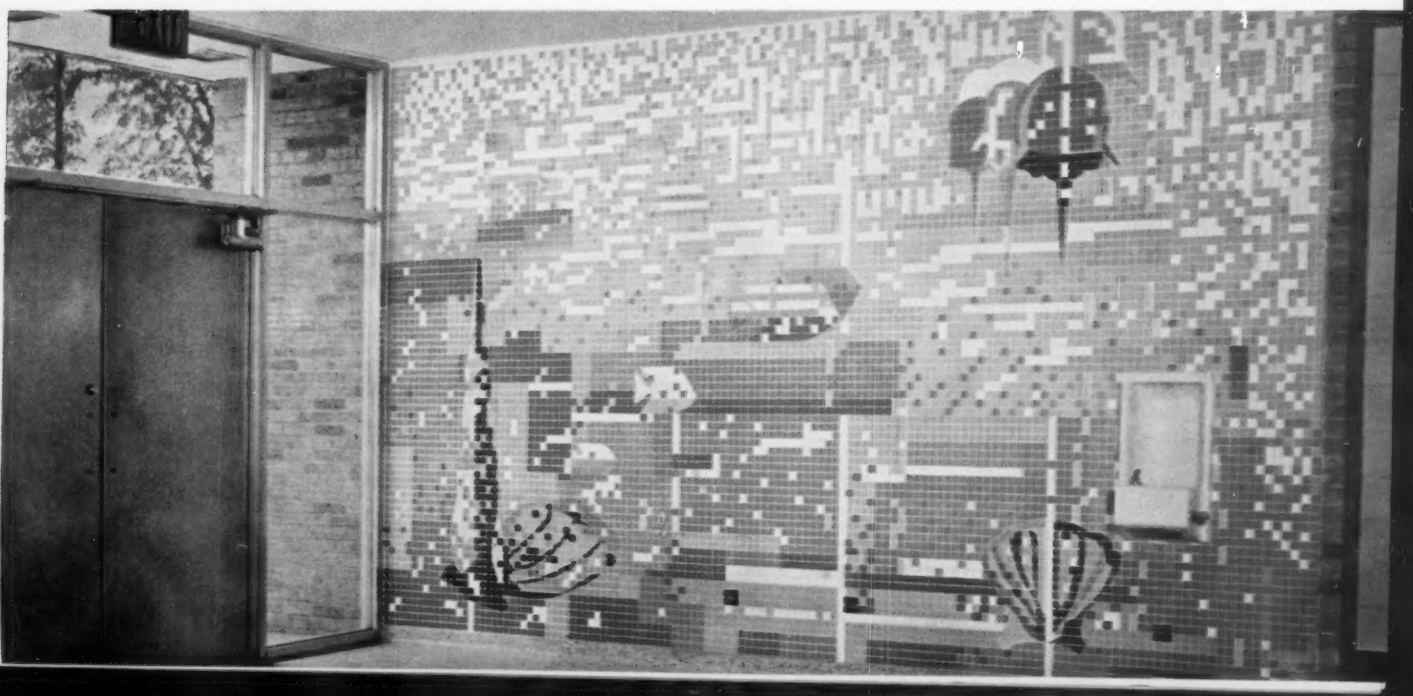
For one thing, the new importance of the wall area in today's architecture has focused attention on ceramic tile as the ideal material for architectural design. It is richly decorative, permanently beautiful, superbly functional. For another—the many new tile products developed by American Olean give the designer wide latitude for individual expression . . . as illustrated by the two wall treatments shown here. Write for Catalog 210 for details on the complete line of American Olean tile products.

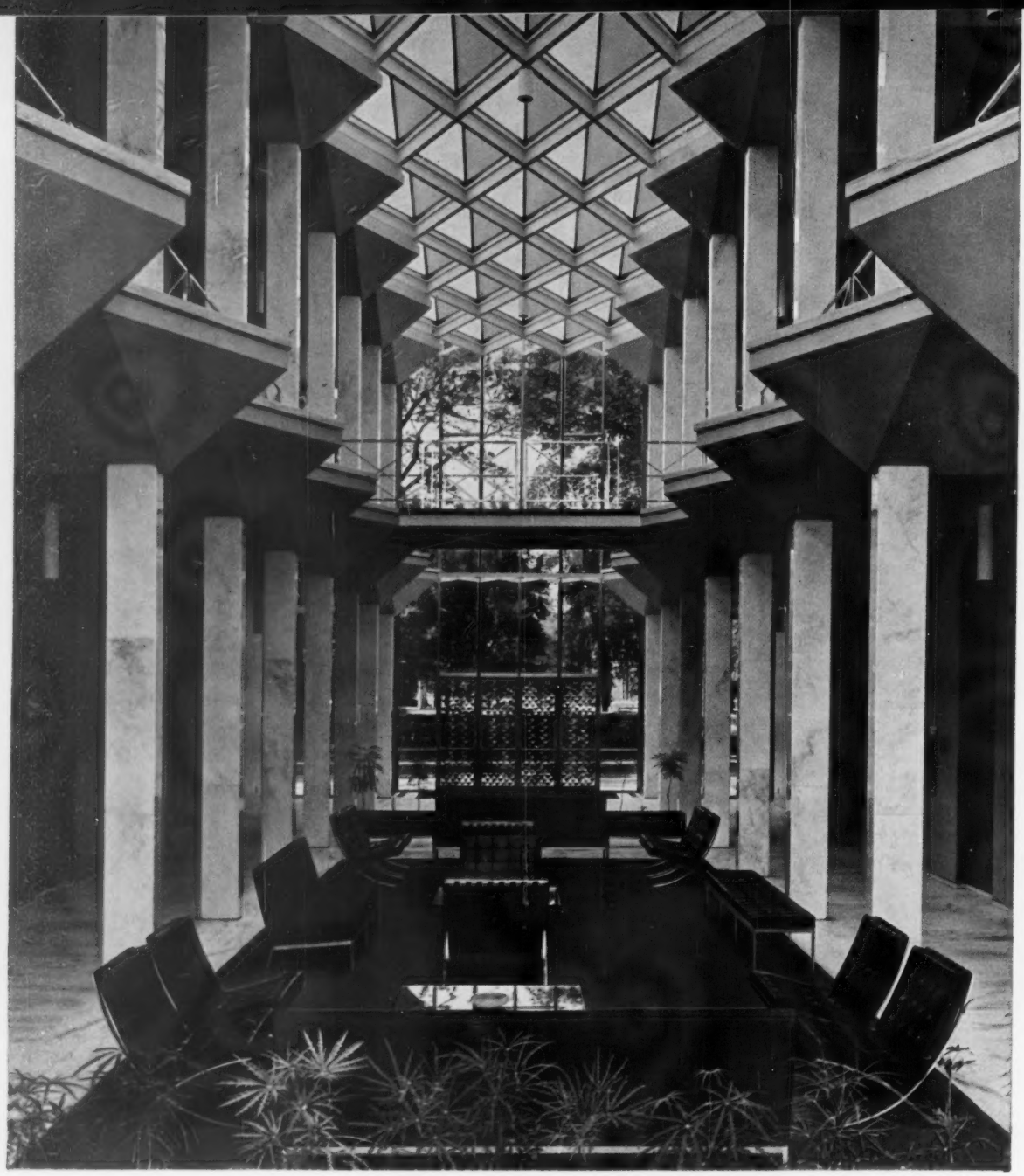
CERAMIC TILE
American Olean

*Our Design Department will be glad to assist you in developing details for special design treatments.*

AMERICAN OLEAN TILE COMPANY • EXECUTIVE OFFICES: 1516 CANNON AVE., LANSDALE, PA. • FACTORIES: LANSDALE, PA., OLEAN, N.Y., LEWISPORT, KY.
MEMBER: TILE COUNCIL OF AMERICA, PRODUCERS' COUNCIL • A SUBSIDIARY OF NATIONAL GYPSUM COMPANY

Madison Park Swimming Pool, Lakewood, Ohio. Mural in 1⅛" Tile Gems® in 47 Brite White, 20 Turquoise, 63 Flax Blue, 12 Buttercup, 28 Pearl Gray, 65 Iris Blue, 21 Cornflower, 34 Berry Brown, 49 Gloss Black, 29 Oyster Gray, 81 Spruce Green, 64 Lobelia and 32 Tan Glo. Architect: John F. Linai. Color Plate 421.





Minoru Yamasaki & Associates, Architects  McGregor Memorial Conference Center at Wayne State University  Baltazar Korab, photograph

An imaginative treatment of layout + color by the Knoll Planning Unit. Knoll Furniture and Fabrics are available through architects, decorators and dealers.

May we send you information on the Knoll Planning Unit and international facilities?

**KNOLL ASSOCIATES, INC., AND KNOLL INTERNATIONAL, LTD., 575 MADISON AVE., NEW YORK 22**

Boston, Chicago, Dallas, Detroit, Los Angeles, Miami, New York, Philadelphia, St. Louis, San Francisco, Washington. Brisbane, Brussels, Caracas, Helsinki, London, Madrid, Mexico City, Milan, New Delhi, Paris, Sao Paulo, Stockholm, Stuttgart, Toronto, Zurich.

*September 1960* **PROGRESSIVE ARCHITECTURE**

THOMAS H. CREIGHTON, FAIA, EDITOR

CHARLES MAGRUDER, AIA, MANAGING EDITOR
JAN C. ROWAN, AIA, FEATURES EDITOR
BURTON H. HOLMES, AIA, TECHNICAL EDITOR
JAMES T. BURNS, JR., NEWS EDITOR
BARBARA J. MELNICK, INTERIOR DESIGN EDITOR
JOHN MORRIS DIXON, ASSISTANT EDITOR

JOAN HURLEY, ART DIRECTOR
ELMER A. BENNETT, CHIEF DRAFTSMAN
NICHOLAS LOSCALZO, DRAFTSMAN
ANN DOUGLASS, EDITORIAL PRODUCTION

JEAN HATTON DUFFY, ASSISTANT FEATURES EDITOR
ELLEN PERRY, ASSISTANT TECHNICAL EDITOR
MARION FEIGL, JUNE WETHERELL FRAME,
JANICE M. HELMER, NORMA S. MENDLE
EDITORIAL ASSISTANTS

NORMAN COPLAN, E. E. HALMOS, JR.
ADA LOUISE HUXTABLE, WILLIAM J. McGUINNESS,
SIBYL MOHOLY-NAGY, ILSE MEISSNER REESE,
HAROLD J. ROSEN, JUDGE BERNARD TOMSON
CONTRIBUTING EDITORS

REINHOLD PUBLISHING CORPORATION
430 PARK AVENUE, NEW YORK 22, NEW YORK

# CONTENTS


*Cover* IVY AT HARVARD Photo: John M. Dixon

*Frontispiece* PARTIAL VIEW OF QUINCY HOUSE COURTYARD (page 134)
Photo: Gottscho-Schleisner

*122* FORM AND STYLE IN CAMPUS DESIGN by Richard P. Dober

*134* THE EIGHTH HOUSE
Quincy House, Harvard University, Cambridge, Mass.

*142* R.I.S.D. CLIMBS COLLEGE HILL
Student Living Center, Rhode Island School of Design, Providence, R.I.

*148* SUN SCREEN and FIREPLACE: SELECTED DETAILS, R.I.S.D.

*150* THE SETTING PRESERVED
Foss Hill Dormitories, Wesleyan University, Middletown, Conn.

*156* DORMITORY PLANNING: TWO EXAMPLES
Oxtoby Hall, San Francisco Theological Seminary, San Anselmo, Calif.
Men's Residence Halls, Southwestern Louisiana Institute, Lafayette, La.

*160* LIBRARY FACILITIES: INTERIOR DESIGN DATA
Barnard College, New York, N.Y.
Bennington College, Bennington, Vt.

*164* THE CRIES OF OUR CITIES: PRACTICE OF ARCHITECTURE
By John V. Lindsay

MATERIALS AND METHODS

*168* ROOF-TOP PLANTING by Robert L. Zion

*172* COMPOSITE DESIGNS IN PRECAST AND CAST-IN-PLACE CONCRETE
By Arthur R. Anderson

*180* ACOUSTICS AND REVERBERATION by David P. Costa

*182* VIBRATORY STUDIES IN "REVERBATORIUM":
MECHANICAL ENGINEERING CRITIQUE
By William J. McGuinness

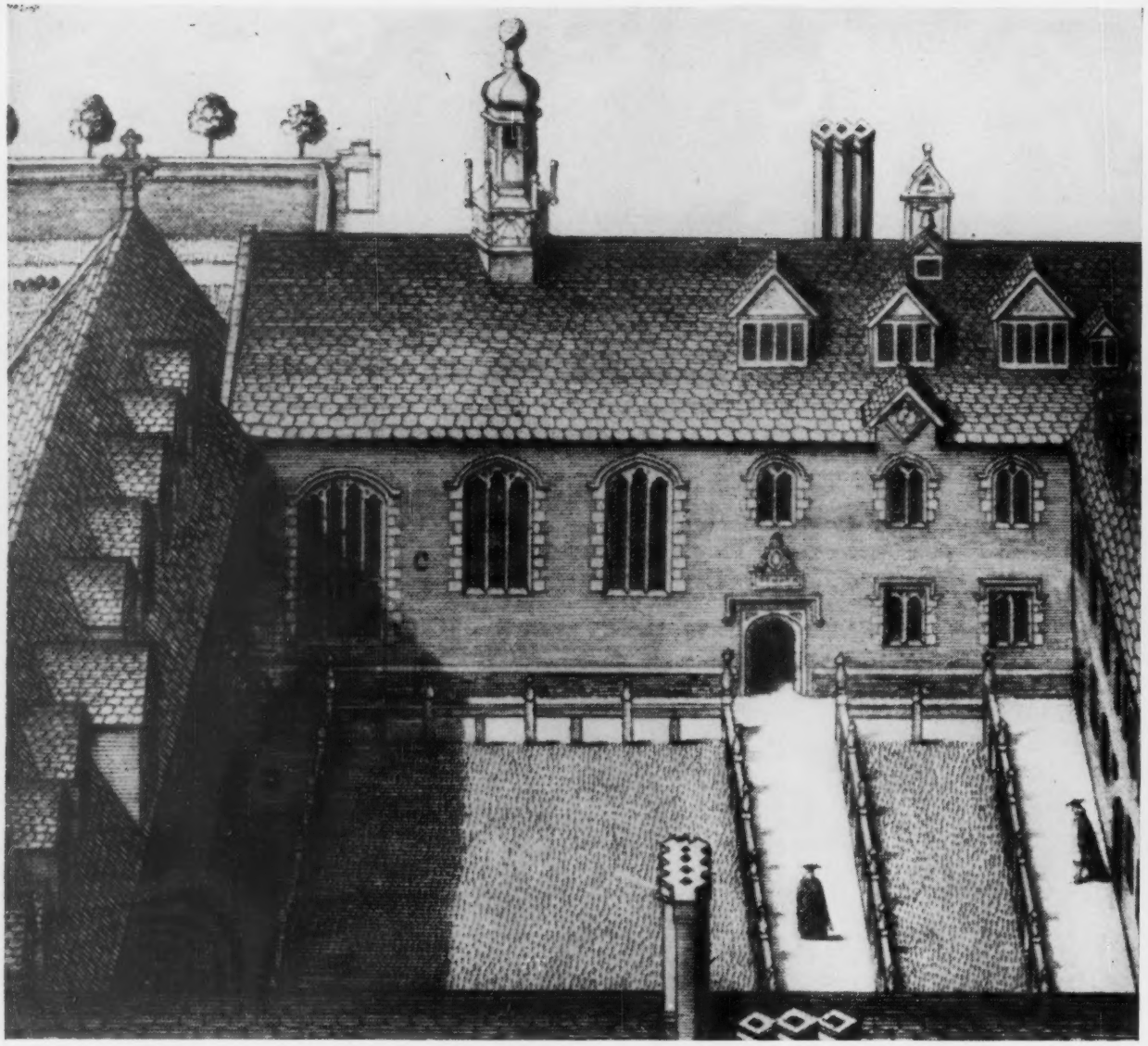
*184* DEFINING THE "SPECIFICATIONS WRITER": SPECIFICATIONS CLINIC
By Harold J. Rosen

*186* CONSTRUCTION CONTRACTS—PART 3: IT'S THE LAW
By Bernard Tomson & Norman Coplan

*188* VIEWS

*192* THE MAN BEHIND THE FAÇADE: BOOK REVIEWS

*242* DEFENSE OF GRAND CENTRAL TERMINAL: P.S.



BY RICHARD P. DOBER

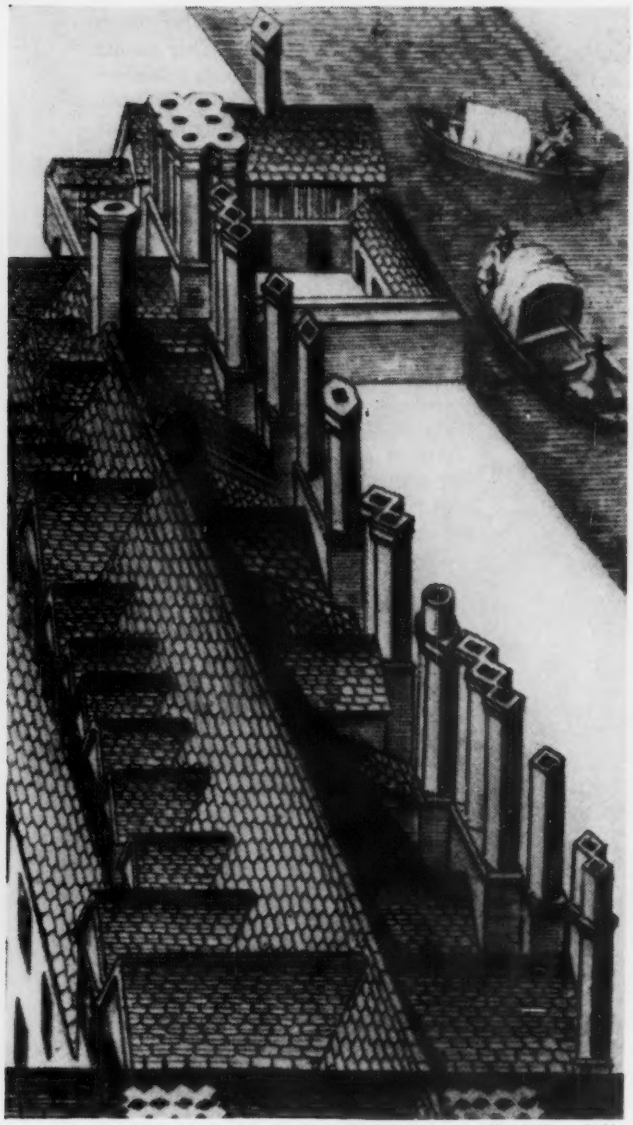
*In an article on the work of Sasaki, Walker & Associates ("Design of Exterior Spaces" by Jan C. Rowan—*JULY 1960 P/A*) it was mentioned that "because universities and colleges are beginning their greatest expansion programs, much of the firm's work is in this area of design" and that the subject would be discussed in a future issue of* P/A.

*Therefore, in this month's introductory article, one of the firm's planners explains design problems affecting the planning of campuses and describes the concepts of several recent campus plans by his and other offices.*

Any discussion about planning and design for colleges and universities must first recognize the peculiar nature of these institutions. They are long-lived, non-profit social organizations, dedicated to both continuity and change, and, in general, they have limited resources and little oportunity to accumulate surplus capital for expansion. With few exceptions, private institutions today are dependent on a philanthropy which, on a relative scale, has dwindled in each decade since 1900. Public colleges and universities compete with other government responsibilities, such as medical care, elementary education, housing, highway construction, and other public works projects. While they may plan for the future, they can meet only the most pressing and immediate of physical plant development needs.

Behind all this is the specter of increasing numbers, the so called "population explosion." Population experts predict that 1965 will be the zenith of this decade's enrollment trend. It will mark the final stage of a cycle of marriages and births that began after World War II. Institutional construction seems to follow the pattern of population maturation. First the boom in elementary school building, then the peak years for junior and senior high schools, and now the colleges' turn. In New England alone there will be, by 1970, double the 1958 college enrollments, and, by 1975, double the amount of facilities now in use. The disproportion between students to be educated and space available may be managed by scheduling larger classes and lengthening the school term.

It is against this background of penury on one hand and social obligation on the other that the significant problems



The Bettman Archive

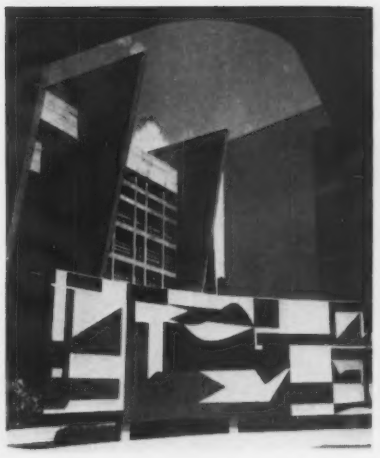


Photo: Paolo Gasparini

# FORM AND STYLE IN CAMPUS DESIGN

of design for these institutions should be considered. These problems can be grouped and described as the question of appropriate *style* and the search for campus *form*. Stated in its simplest terms, the former is a concern for the characteristic expression of architecture, the latter the manner in which buildings relate to the site and to each other.

Affecting both is a subtle interplay between educational policy, program, and planning requirements. These are of two kinds: those relating to the functional aspects of the site and those relating to the concept and purpose of the institution. The former are discernible influences. They lend themselves to measurable surveys of space, climate, geology and soil, utilities, accessibility, direction of expansion, and peripheral physical influences. While the control of these may not always be in the institution's hands, the questions they raise can be posed in finite terms; resources can be allocated and alternative plans made.

Unraveling of the institution's philosophic goals, so that effective design programs and plans can be articulated, is a more difficult task. These goals are seldom explicitly stated; thus it is often frustrating for a consultant designer, who has not worked intimately with an institution, to understand or appreciate the ways and means by which decisions affecting his design are made.

Among the functions and activities which deserve attentive regard in planning and programming are: the kinds of functions and activities to be sponsored and supported; the balance between male and female and upper and lower divisions enrollments; academic requirements; the sensitivity of the institution to the legislature in the case of a public college, or to the trustees in the case of a private school. The resolution of such concerns rarely lies in the hands of the consultant, no matter what his mandate might be, though he is often a catalytic force which brings about a consensus. Even in a strongly centralized administration it is inherently part of the academic convention to support the autonomy of individuals, departments, and colleges. Thus institutional mores, not necessarily the consultant's best judgment, will occasionally dominate an assessment of a design proposal.

With the need for information, direction, and action so

pressing in the rapid expansion which institutions are experiencing—while still wanting to preserve their traditional system of checks and balances—many colleges and universities are turning to the planning process as a device for effectively reaching all members of the academic community and bringing their dreams, ideas, thoughts, ambitions—even complaints—to bear on the problems of design. The technique involves a continuous review of any course of action in the light of long-range goals as modified by changing means and ends. As a start, an over-all prognostication of potential growth and development is made and problem areas of the existing plant are pin-pointed. Present and future needs are then weighed and evaluated, and resources are allocated in priority of implementation.

1 *Monotony through repetition: old* (left) *and new* (right) *buildings in the same style and materials at the University of Colorado in Boulder, Colorado.*

The conditions and restrictions of design permeate all this thinking. Plans are made not only in terms of budget and administrative directive, but also in designation of land uses, building zones, circulation systems, and landscape development policy. Positions on architectural design and siting are often taken. Flexibility—in opposition to rigidity—is sought.

The plans and policies are continually used as frames of reference against which day-to-day decisions, events unknown at the time of the plan, can be appraised. To work well, planning must be a full-time responsibility of some member of the administration. By adding outside specialists and consultants to solve specific design problems, universities and colleges can begin to avoid the expense of the hit-and-run technique that has left so many splendidly conceived architectural plans of the past decade completely out of phase with the demands of the times.

### *Homogeneous Style*

No one should seriously question whether the institution's educational policy affects the concepts of campus design, both in the larger sense and in detail. An excellent example is the planning and programming of the Air Force Academy 2. The ephemeral and fanciful were eliminated from the beginning. Changes in level, connections between academic, residential, and student service areas, the relationship of the site to its environs—elements which could have been treated in a more gentle manner—have been strikingly and directly formed and shaped by Skidmore, Owings & Merrill into a monumental pattern that superbly reflects the militaristic character of the institution.

The Air Force Academy falls into a category of style that can be called *homogeneous*. It is a mannerism conceived as an entity, with aluminum, steel, and glass meticulously joined together into a geometric pattern reflecting the highest standards of technology.

Similarly homogeneous is Foothills Junior College 3, though the mannerism is of another kind. The architects Ernest J. Kump and Masten & Hurd, and our office as landscape architects, hope that here wood and stone, a consistent scale, the integration of landscaped open spaces and the hilltop, the subtle balancing of aerated water, sun, and shadow combine to form a unity.

### *Heterogeneous Style*

The above examples were given a shape and form in a moment in time. They are in distinct contrast with two other recent campus designs, Mexico National University 4, planned under the general direction of Carlos Lazo, and Brandeis University 5, under Max Abramovitz, which also were designed within a relatively short period of time, but which are *heterogeneous* in style. They too are cited by many critics as being reflections of the best modern architecture available. Individual buildings are distinct entities. If the focus of attention is on style alone, one has to mention that the richness of texture, color, and form lacks a background context to set off so many jewels.

### *The Historic Question*

Should the style be homogeneous or hetrogeneous? This problem becomes more acute when the historic question is posed: how to meld old and new styles on existing campuses. Because the physical form of the institution is a vehicle for transmitting continuity and change, and is recognized as one of the mirrors of culture, the question of style (i.e. characteristic expression) cannot be brushed away in the hope that function alone will determine form. In attempting to find a rationale for dealing with the issue of style, the university or college administrator is faced with the stale praise of the public relations sycophant. He is told that this man's work or that firm's approach is "timeless architecture"—an expression the profession should exscind from its vocabulary since it contradicts cultural and intellectual history. As observers have noted, the verities of the situation seem to be:

1 Modern architecture has not yet created a universal symbolism with the directness of communication that has been ascribed to the Gothic, Neo-Classic, and Georgian forms.

2 There appears to be little consistency in the creation of style in institutional architecture today. The "skin" façade that followed World War II is quickly being supplanted by a more plastic art. Textures, color, and an involvement with non-rectilinear shapes are creeping back into the design vocabulary. The esthetics of the "action" school of painting may be an influence; in any case it seems that this month's vital image is next year's stereotype. While many a gem is created, the backlog of dependable, if pedestrian, architecture that is needed in any campus is sadly absent in the contemporary tradition.

3 There is little chance for a return to the historic styles even if the institution wanted to turn its back on the new plastic arts. The reasons are simple: the cost of construction is not competitive with contemporary architecture; maintenance costs on such older forms are prohibitive; the craftsmanship is no longer available.

2 *Elimination of the fanciful: aerial view of US Air Force Academy in Colorado Springs, Colorado.*

Photo: Dwain Faubion

3 *Consistency of design: model of proposed Foothill College at Los Altos, California.*

Photo: Cia. Mexicana Aerofoto, S.A.

4 *Heterogeneous entities: aerial view of National University at Mexico City, Mexico.*

5 *Lack of background context: existing and proposed buildings at Brandeis University in Waltham, Massachusetts.*

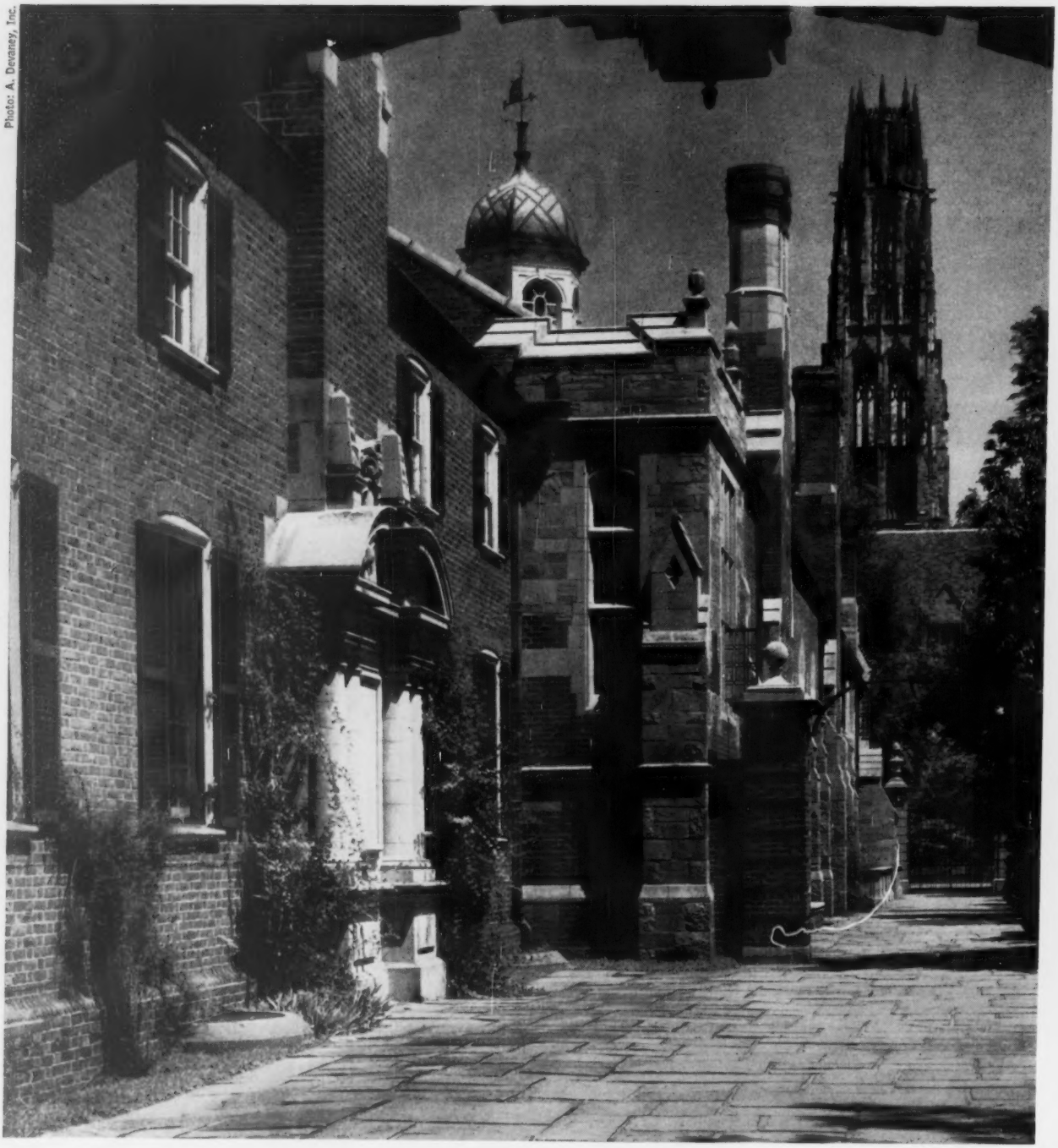


Photo: A. Devaney, Inc.

Photos: Harvard News Service

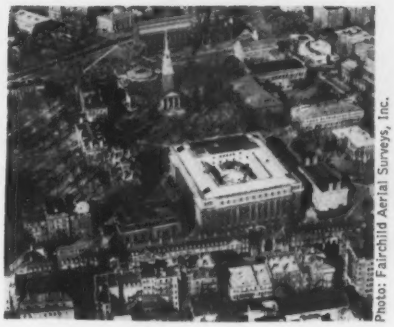


Photo: Fairchild Aerial Surveys, Inc.

**6** *Disparate styles side by side in harmony and consonance: view towards Harkness Tower at Yale University* (left); *University Hall* (above left) *and Sever Hall* (above right) *which face each other across the Yard* (right) *at Harvard University.*

In homogeneous campuses that have retained a consistency of traditional style over a period of time, there are the added problems of diluted architectural concepts as newer buildings are added to the old, and the increasing disfavor with non-flexible buildings, particularly for engineering and science facilities.

The University of Colorado 1 administration has stated: ". . . architectural styles that were excellent solutions for smaller campuses may become monotonous when repeated over and over for a campus many times the size of the original conception."

There is no simple solution to the historic problem, nor is there a single answer to questions of choice of homogeneous or heterogeneous styles. However, insights, perhaps even the keys to transmutation, may be discerned in an examination of institutions which are centuries old. Among these are Harvard and Yale **6**, collections of buildings which carry the full history of architectural style in America. Disparate styles have existed side by side in harmony and consonance on these campuses because:

1 There has been a respect for scale, especially in elements such as roof lines, massing, corner-to-corner building relationships, fenestration and doorway treatments.

2 There is a general consistency in the selection of materials, creating a series of design recalls and themes.

3 In the siting of buildings, full respect has been given to the neighboring buildings and environs. There is no shadowing or crowding out.

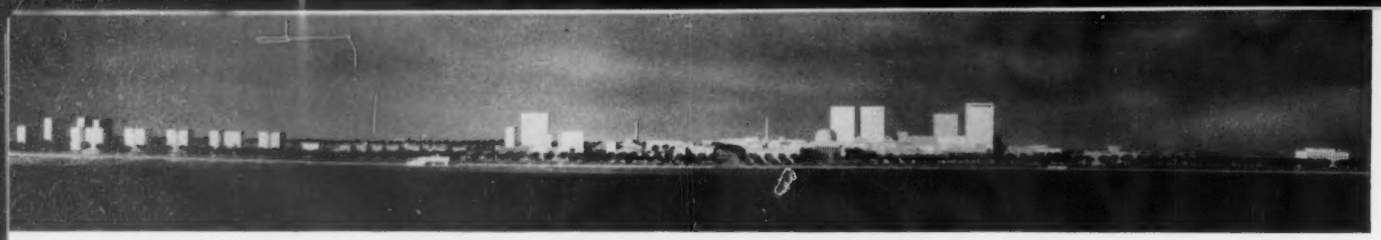
4 Of its kind, each building is a first-class example of the craftsmanship of the period it represents.

5 Spaces around buildings are well arranged and ordered so that unity and commodity go hand in hand with the esthetic sensing of the space.

6 Elements of landscape are judiciously placed to complement the architecture, control the flow of traffic, and strengthen the spatial sequence.

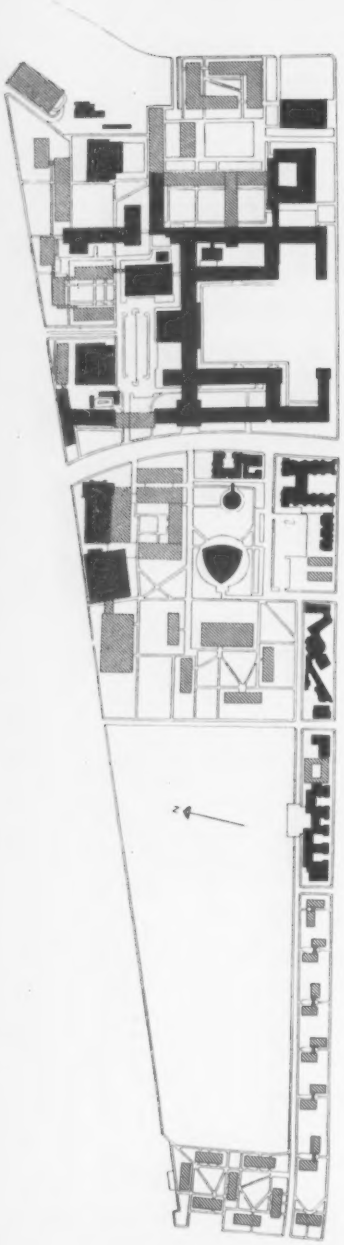
Do these clues as to how to handle style have universal application? Will they be applicable in the decades to come when today's bright modernity is to be replaced with the unknown?

I believe so, for even the genius designer, inventing new forms and solutions, would probably ground his ideas in the above principles. Moreover, an extreme stylistic solution may work well only where the institution's goals and means for achieving its ends are rigid. This is an exceptional instance and, fortunately for those colleges and universities which cannot afford to risk their resources on a building or plan which is experimental, a less radical approach



*7 Urban character in campus forms: the new Master Plan* (below) *for MIT at Cambridge, Massachusetts. Existing buildings are shown solid black, proposed buildings are cross-hatched. Student residences surround the play fields at the west end of the campus.*

Photo: Ezra Stoller



to style need not be a compromise of artistic integrity, as illustrated by the buildings presented in another section of this issue of P/A.

Closely related to style is the question of form. Although some estheticians can't intellectually separate one from the other, it should be noted that the discussion of form in this article relates to the perceptual quality or collective identity of the campus. This can be readily grasped if one thinks of campus form in terms of a series of abstracted opposites such as: vertical versus horizontal; unified versus decentralized; integrated versus insulated. The permutations of such variables are endless, and few campuses are purely one or the other. The descriptions that follow are but a few examples of the kinds of situations designers and planners are facing in their search for form.

## *Reaching for the Sky*

A move towards verticality is seen in the concentrated institutional development along the Charles River in Metropolitan Boston. Harvard, MIT, and Boston University face similar expansion problems. Applications for enrollment are the highest ever and the present physical plants are at capacity. Duplication of facilities in the shape of satellite campuses has been rejected as a planning alternative. Adjacent land is either not available in the quantities needed for a horizontal expansion of the projected building programs, or the cost of land acquisition is unreasonable. Thus, severely limited by lack of land, the campuses are changing their earlier scale and reaching for the sky.

Sert, Jackson & Gourley's preliminary scheme for Boston University 8, for example, calls for a series of towers to be placed on key development tracts, sited and composed in relation to the University skyline and to the view from adjacent Charles River amenities.

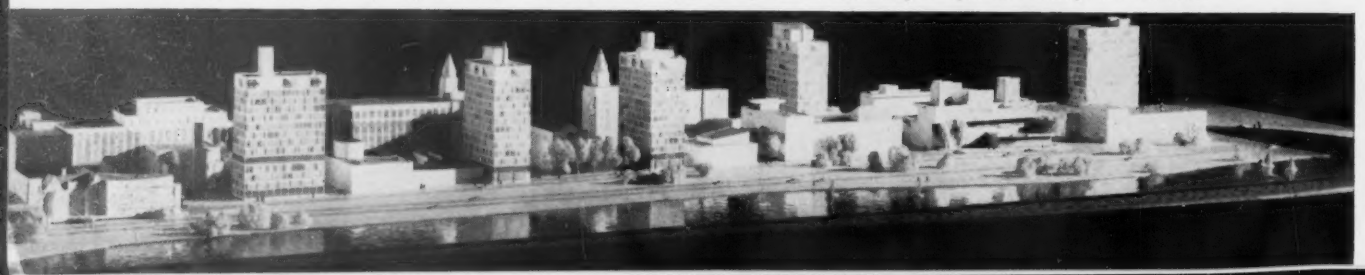
Across the river, MIT's planners and designers (the Long-range Planning Committee and our office) were faced with a similarly narrow site, sandwiched between the Charles River and the B. & A. Railroad 7. Existing play fields had to be preserved, and planning policy directed that most on-campus functions were to remain where now located.

The solution presented to the administration and used for their Second Century Fund drive divided the campus into three parts: the academic precinct on the East Campus, the residential area on the West Campus, and the auditorium, chapel, student union, and physical education facilities located between the two. Residential and academic expansion is to be contained in a series of towers and slabs as shown on the model. Residential buildings have been advantageously sited between the play fields space and the Charles River.

On the East Campus, long-range academic expansion will take place in tall structures; some of these will replace lower-density facilities when these uses can be housed elsewhere during the transition phase.

Though capitalizing on the potential of slabs and towers, the planners did not forget the symbolic domes of MIT, and the new arrangement of buildings will give these architectural features a handsome setting. Special attention was given to the treatment of the ground plane. Linked courts and pedestrian ways, embellished with landscape elements appropriately recognizing the urban character of the campus form, will soften the impact of the vertical scale.

*8 Series of towers: model of a preliminary scheme for the expansion of Boston University campus in Boston, Massachusetts.*



### *Unity of Form through Land and Program Planning*

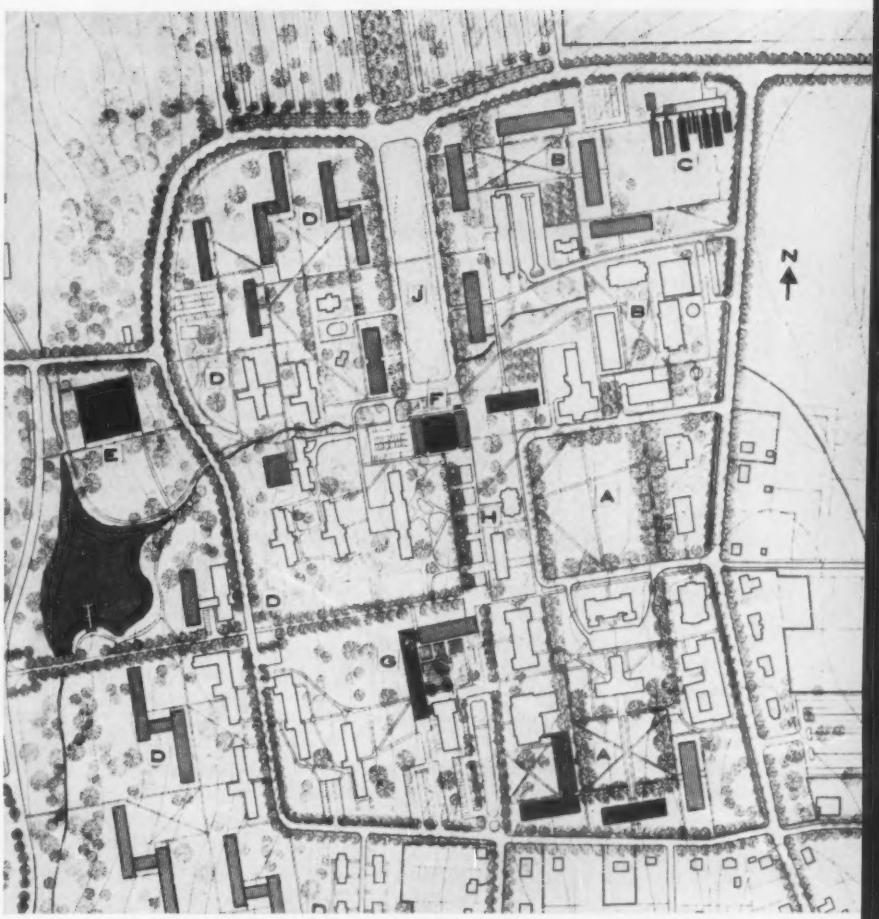
A common design problem is the tying together of parts of the campus into a design unity. We are planning consultants for the University of Rhode Island 9, where a two-phase development program was used to bring order and coherence to a campus form that had lost much of its earlier design structure as new facilities were built at a rate not previously experienced in the University's history.

Fortunately the intrinsic campus design had been recognized by Charles Eliot a half century ago when he suggested that the academic buildings be sited on a north-south plain, with residential facilities on the westward slope, and agricultural and athletic plots at the base of the incline. The advice was held to, but the plan remained uncompleted.

The problem of finding sites for double the existing amount of building space, plus finishing the fifty-year-old scheme, was compounded by the necessity of designing a circulation system that would adequately service the first development phase and also be manageable when the University's front door would be reversed 180 degrees northward on completion of a major highway north of the campus six or more years from now.

As shown in the illustration, the central campus will be filled in with new academic buildings in phase one. For the same construction period a new core was designed as the nexus of the academic and residential sectors. The core will include a new library and additions to the student union—the latter on the south end of a landscaped mall, the former on the north end. Key student administration buildings will be located along this pedestrian way. A loop road is planned to service the existing and proposed buildings.

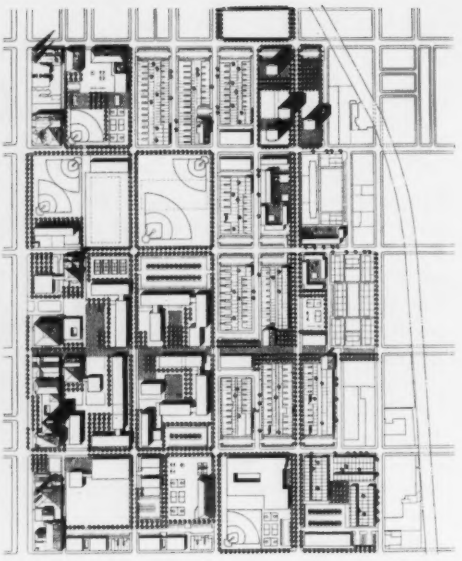
During phase two, buildings will be added to the engineering and agricultural precincts, which have already been started north of the old quadrangle. When service and parking demands rise, additions will be made to the phase one loop, including another major mall which becomes the University's automobile front door. Through traffic will be kept out of the academic precinct, and no automobiles will cross the core. As at MIT, pedestrian movement will be channeled through a sequence of landscaped open spaces, each distinctive, yet connected to each other to form a whole.




9 *Tying of parts into a design unity: Master Plan for the University of Rhode Island at Kingston, R.I. Existing buildings are shown in outline, phase one in solid black, and phase two cross-hatched. The plan proposes additions to the academic core* A, *and additional buildings for engineering* B, *agriculture* C, *residential use* D, *and athletics* E. *A new library is located at* F, *additions to the student union at* G, *a pedestrian mall at* H, *and an automobile entrance mall at* J.

Photo: Rehman Photo Service

10 *Two use areas tied together by a plaza* (circled in photo); *model of proposed development for the University Circle area in Cleveland, Ohio.*



11 *Capitalizing on existing urban elements: Temple University and the adjoining area in Philadelphia.*

By 1975 the University of Rhode Island campus will no longer be a mosaic of mixed uses. The central core will be the heart of the campus, serving residents as well as commuters. In order of intensity of use, academic, housing, and field spaces will be arranged in bands away from the core. By carefully using each program increment in conformance with the master plan, the central campus form will seem complete to the pedestrian after the first five year program, and the rest of the campus after construction that follows.

### *Unity through the Use of an Architectonic Element*

University Circle 10 in Cleveland is one of the world's largest institutional clusters. Colleges, universities, museums, and hospitals are interspersed among housing and commercial structures. The consultants (Adams, Howard & Greeley and Anderson, Beckwith & Haible) organized the major uses into two groups: an academic-medical zone and a public leisure-cultural center. Planning criteria dictated an urban-scale, integrated campus form, with town and gown harmoniously joined together. Even with planning controls of use areas, ground coverage ratios, the location of open spaces, and the articulation of circulation systems, the size of the area weakened the feeling of integration. Therefore, as a symbolic and functional link, the consultants designed a plaza tying both use areas. This will allow an uninterrupted pedestrian movement across heavily traveled Euclid Avenue and also provide convenience facilities such as bookstores, restaurants, and meeting rooms.

### *Insulated Campus Form*

The economic necessities and historical land use patterns that were fused together in University Circle were considered incompatible forces in our development of the Goucher College Master Plan 12. One of our goals—the plan included a full analysis of the site's development potential, including specific recommendations for future building sites—was an insulated campus form.

In the late 'Thirties Goucher had deliberately moved from Baltimore to the quiet open lands of Towson. After World War II, the expanding urbanization of the Baltimore metropolitan region gave Towson a dramatic share of new construction. Goucher found itself again surrounded by developed land. As can be seen in the diagrams and maps, the institution's amenities gradually crumbled under the encroachment of highway construction and other uses. Having identified this problem, we advised that a buffer be planted to complete the perimeter and to insulate the campus from the environs. In addition, we suggested a campus form that concentrated buildings along the high points of the land, with play field space and dedicated woods (memorial groves are particularly resistant to capricious destruction for building sites) lying between the buffer and the various academic and residential sectors, creating a green ring around the central campus.

### *Other Kinds of Form Making*

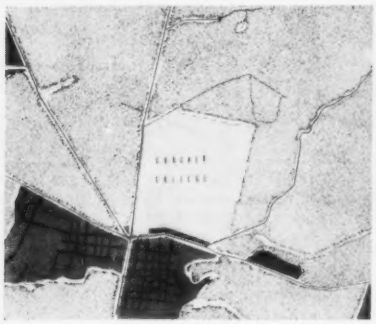
The plans cited above have been skimmed to illustrate a few contemporary trends and influences in campus design. Other significant efforts that deserve recognition are the urban development techniques used by the Philadelphia Planning Commission in its studies for the Temple University neighborhood, and William Johnson's exploratory studies of campus forms being conducted for the University of Michigan (Ann Arbor).

The Temple University 11 approach capitalizes on significant existing urban design elements in the neighborhood and the campus articulates the spatial rhythm of adjoining urban areas.

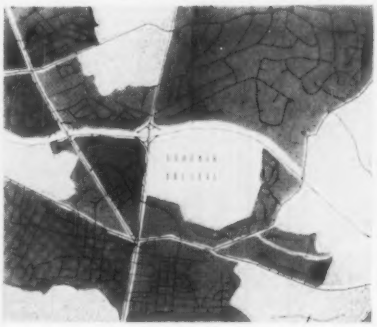
Johnson's technique involves the identification of large-scale planning and site elements which will shape and modulate the campus in the years to come. He includes highway improvements, the pattern of construction adjacent to the campus, the nature of the topography and the site, and the problem of accessibility between parts of the campus. Sub-

12 *Insulated campus form: Master Plan for Goucher College at Towson, Maryland.*

*In 1938 Goucher was in the open on the outskirts of Towson.*

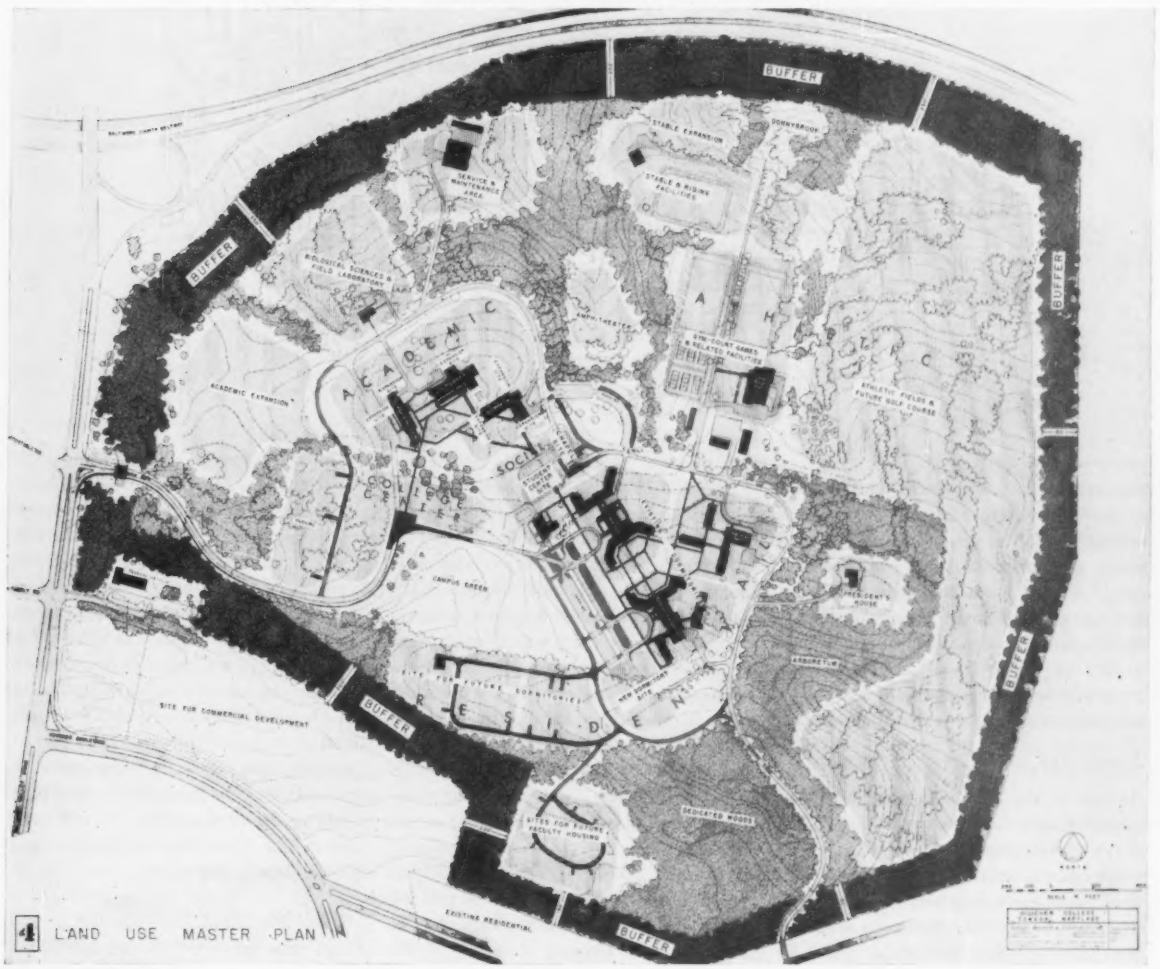


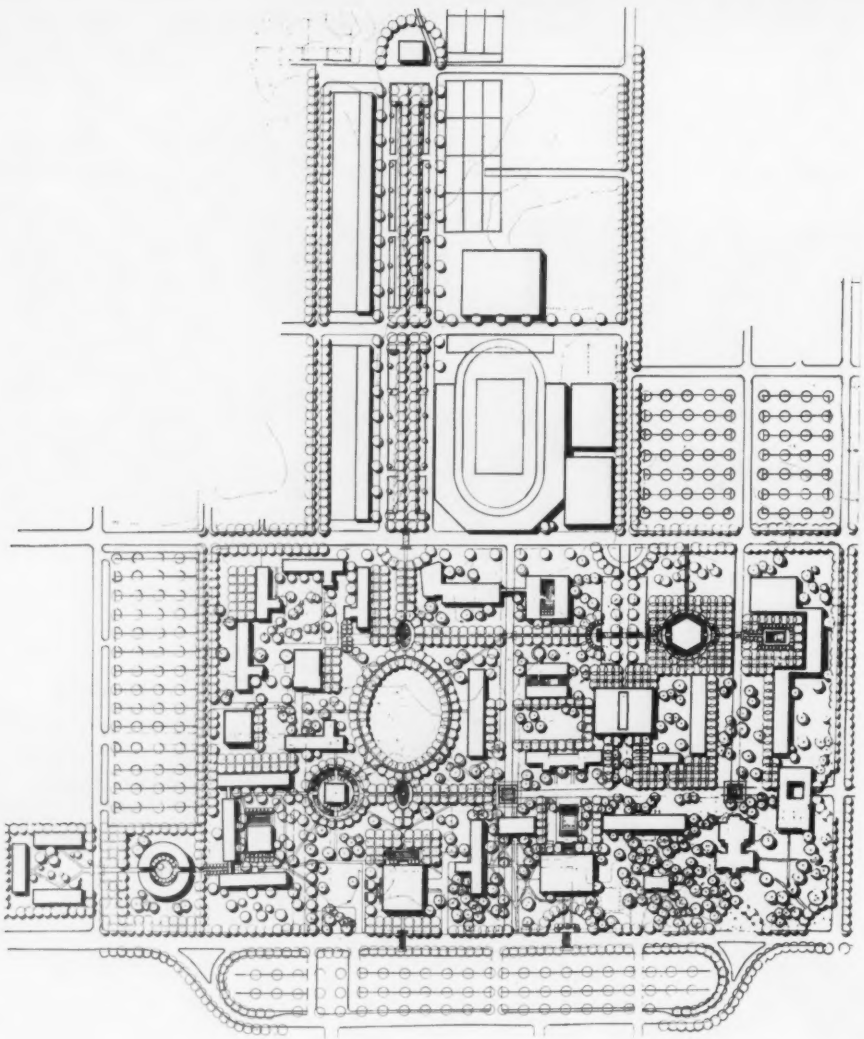
*By 1958 built-up areas completely surrounded the campus.*



*Present conditions indicate dangerous encroachments.*

*Proposed Master Plan showing a planted buffer to insulate the campus from the environs.*





sectors will be demarcated and a kind of three-dimensional chessboard will be set up so that any program or planning moves that are articulated by the administration can be accommodated within the many variable site situations he has established. Most importantly, the consequences of any such move can be readily evaluated in terms of what such an action does to the rest of the campus.

### *Landscape and Campus Form*

As one of the most economic means of establishing a campus design form, landscape development plans are gaining much favor among institutions. They hold together various architectural styles and esthetically enrich the environment for learning. Our landscape plan for Drake University 13 is a case in point.

In this co-ordinating development scheme we have suggested a number of design features which will complement the architectural form of the campus as established by the architects, Harry Weese & Associates. A major recommendation is an outer screen of pyramidal street trees to pull together the peripheries of the campus and to contain the space within. This screen is punctured at certain points and landscape elements are composed to form a series of gateways. They vary from place to place, falling into three categories depending on their use:

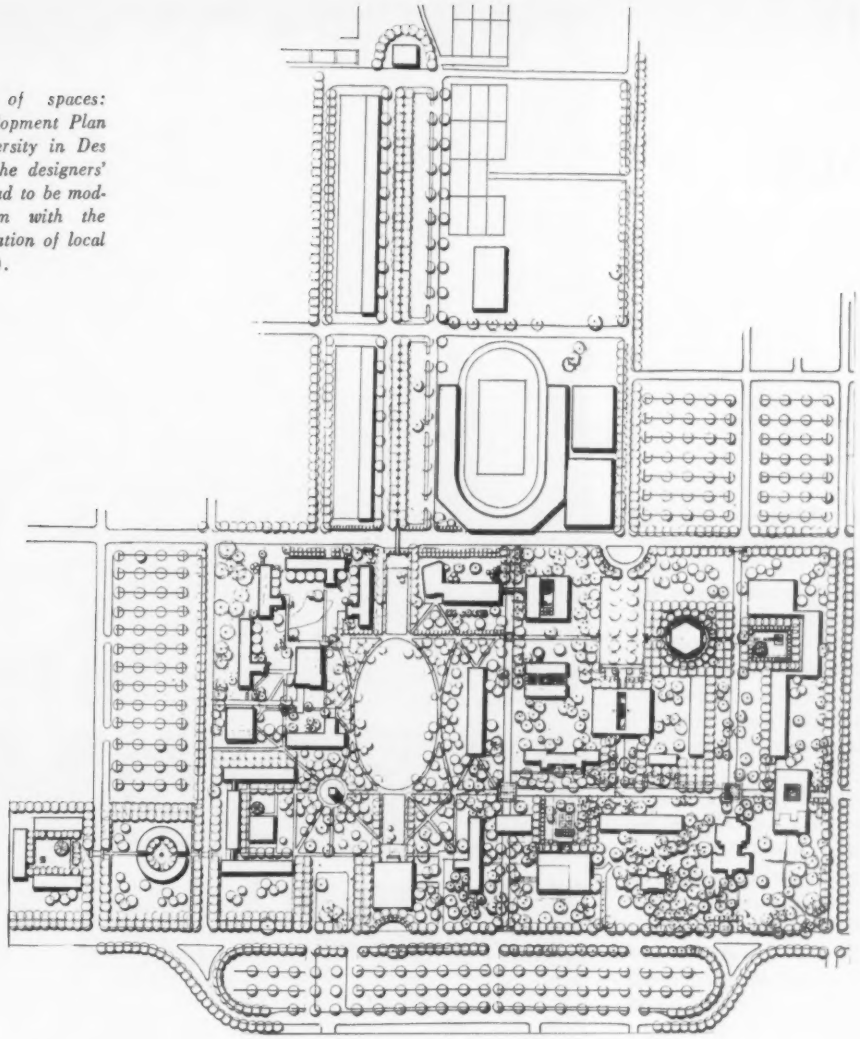
*Functional gateways* Where traffic has to enter utility spaces such as parking lots and service courts, the line of trees has been interrupted to clearly mark the entrance. No special design effect was stressed, but safety, ease of circulation, and the need for minimum maintenance was basic to the selection and placement of plant materials.

*Transition zones* Wherever major pedestrian traffic movements cross, design recognition of these points was achieved by changing ground plane textures or through the use of plant materials. At street intersections cross-overs were provided.

*Symbolic gateways* Builidngs used by the public were given prominence by changing the character of the outer screen and by manipulating the vistas and landscape materials.

### *Functions and Spaces*

The Drake master landscape plan points out another aspect of campus form that



13 *A variety of spaces: Landscape Development Plan for Drake University in Des Moines, Iowa. The designers' concept* (left) *had to be modified to conform with the client's interpretation of local traditions* (right).

is a universal design problem. As an academy of learning, the institution must accommodate and provide for a variety of facilities that are usually compartmentalized and separated in other life situations. Rarely today do people eat, sleep, and work in a single environment.

To afford opportunities of physical and psychical relief from a demanding and occasionally restricting communal life, a campus plan should be designed to include a variety of spaces related to predictable academic and other activities. A plan should include large, friendly, and inviting open spaces around the student unions and dining halls. Quiet spaces should alternate with active spaces in the residential sectors. Some spaces should be suitable for small groups, but not for crowds; some should be in the shade, some in the sun; some grassed, and some terraced.

A special open space should be planned and designed as a focal point in the campus form. It should functionally and symbolically hold the campus together. It has been called in the past the "Yard," the "Green," or, affectionately, "Old Quad."

Should it be a new element in an old campus, the design of this space is best grounded in the roots of the institution's traditions. How it may differ physically and yet functionally be the same can be seen in the evolution of the Drake landscape plan.

The preliminary scheme envisaged a disciplined design treatment. Spaces were tightly knitted and held together by a geometric pattern. After some discussion, the University's administration decided to direct the constultants' aim towards a more relaxed landscape, and the major space was finally designed as a meadow—an echo from the earlier days of Drake and Iowa. Here again the peculiar nature of institutional design comes to the surface. As a nexus the formal space would have served the campus form well. The softer form will be built, for the tradition it represents was not imposed by the consultant, but rather developed from the institution's own symbolic needs.

Thus, as implied in all the generalizations made in this article, adaption not adoption, resourcefulness not retrogression, integrity not imitation, will in the end meld together style and form into a reasonably viable campus design.

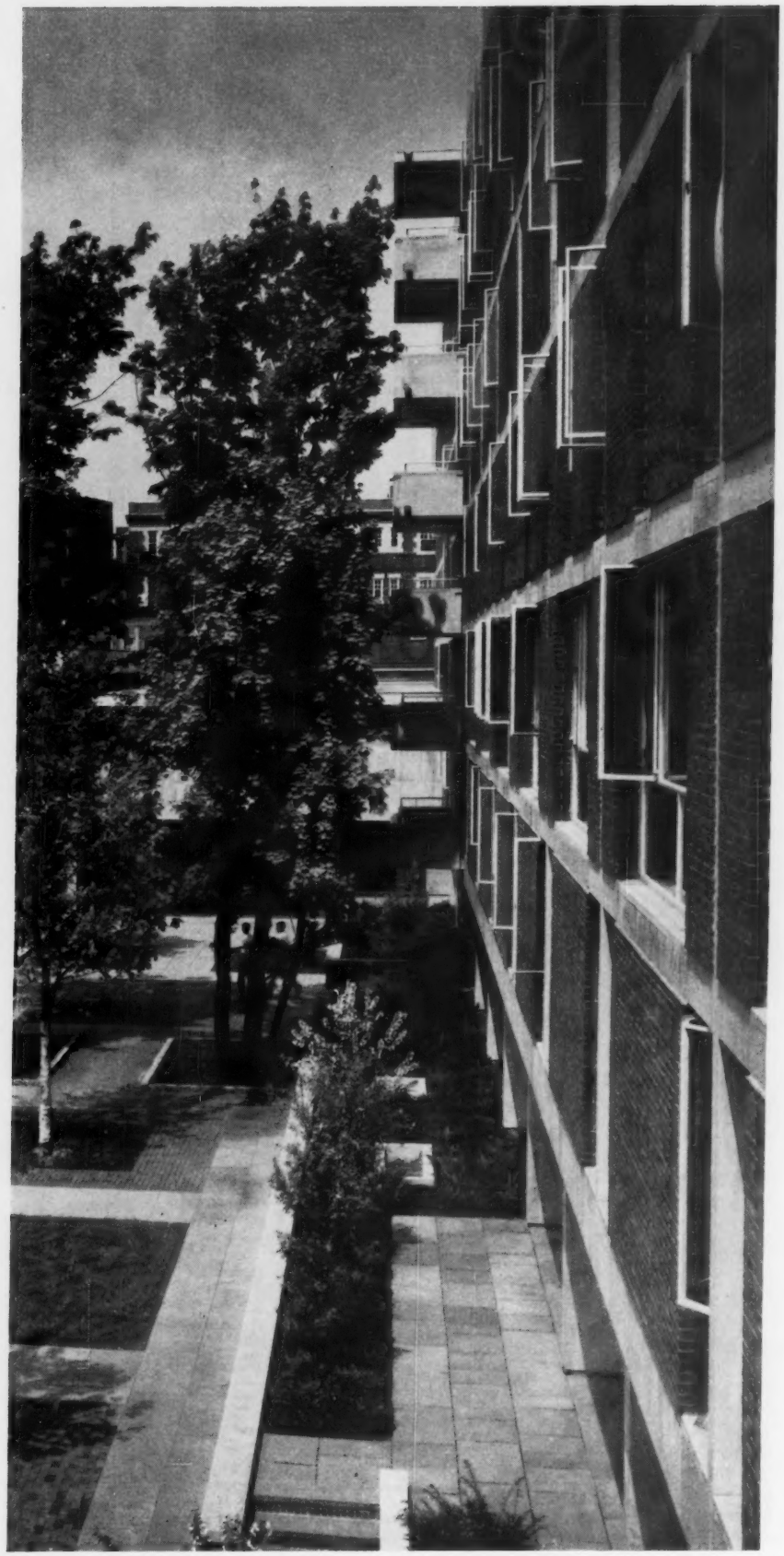
# THE EIGHTH HOUSE

*"An Architectural Revolution was certainly necessary to break the conventional stalemate of the 20's and 30's, but when success was achieved most of the profession, instead of consolidating their gains and weighing and evaluating the various revolutionary philosophies, and distilling out of them what was permanent, and rejecting what was trash, continued their preoccupation with inventive originality.*

*"Really great architecture cannot be achieved by revolution but must in the end be the result of a process of evolution where the excellence and quality of each step can be compared with the step before and from there back to the great things of the past. Excellence is not spectacular or novel or fashionable but it remains, and there is no substitute for it.*

*"In working for an institution with a distinguished historical background and buildings representative of different styles and times, the architect has a special professional responsibility. He cannot go all out experimenting with novel forms and fads, but must discriminate thoughtfully between the different phil-*

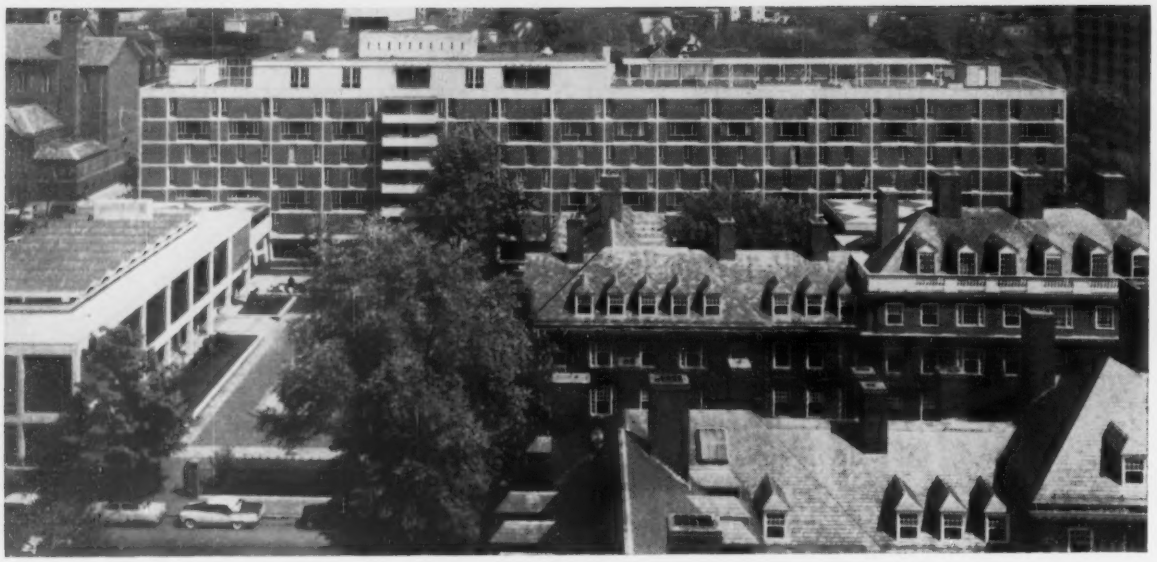
Photos: Gottscho-Schleisner



*osophies and phases of contemporary architecture to be sure he uses only those that will stand the test of time. Furthermore it is not proper to subject these institutions to the high obsolescence factor of experimental structures or those that cater to passing fashion. Much of this type of modern has aged poorly and is soon outmoded.*

*"If we figuratively lift our eyes and try to imagine our building fourth-dimentionally, see it in its relation to past and future as well as present, we may find we shall break one of our cherished rules of technocratic or esthetic morality, and, as artists, liberate it from being too grim an example of the Strong Statement or the Pure Solution. After all, our cherished rules are not static, but are always changing as our architecture develops, and if we tie ourselves to a formula we very soon find we are left behind and on the defensive in the onrush of new concepts that are flooding in on us from all sides."*

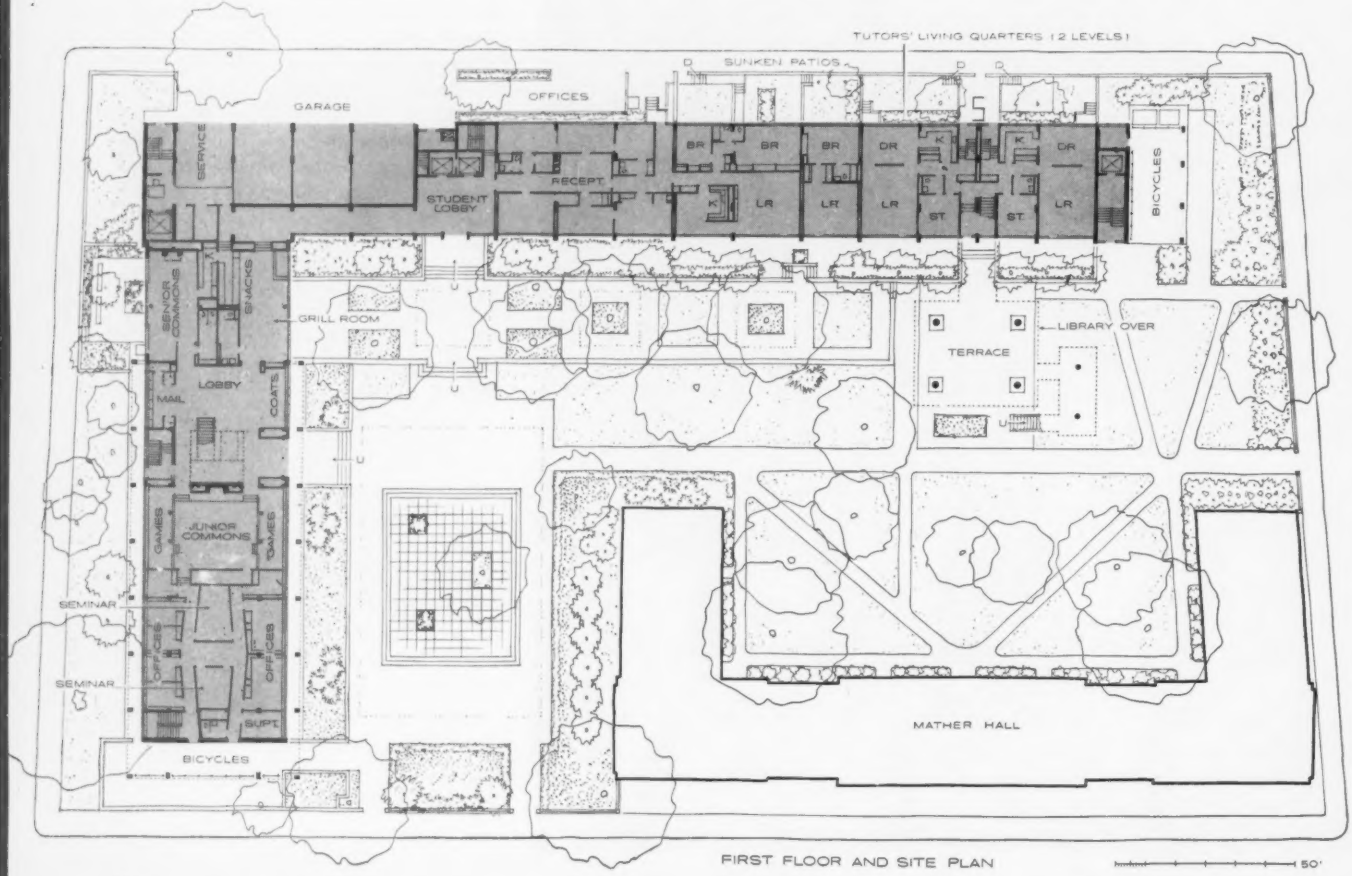
Excerpts from a statement to a prospective client by Henry R. Shepley, designer of Harvard's eighth House, the Quincy House.



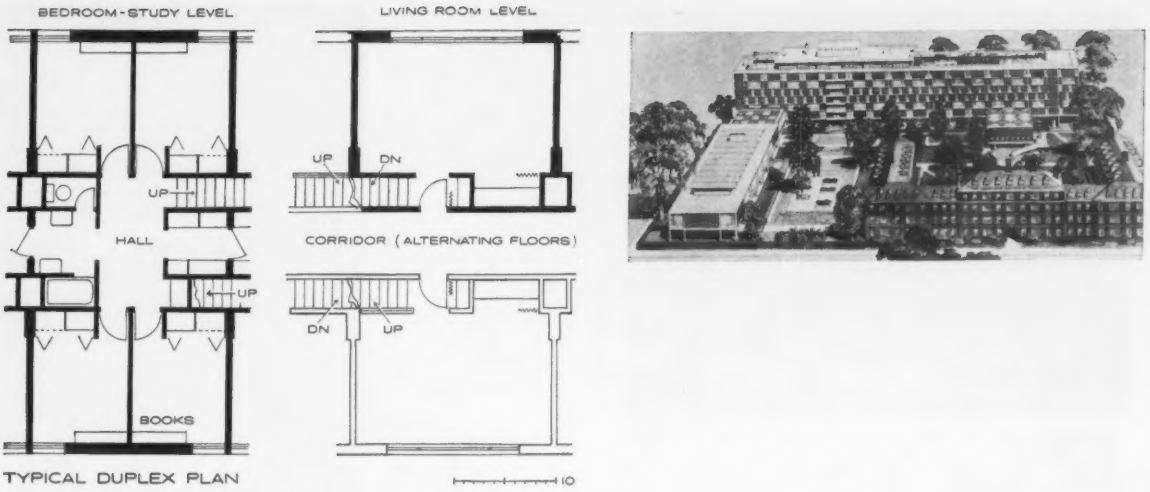
QUINCY HOUSE, HARVARD UNIVERSITY, CAMBRIDGE, MASSACHUSETTS • SHEPLEY, BULFINCH, RICHARDSON & ABBOTT, ARCHITECTS • SASAKI, WALKER & ASSOCIATES, LANDSCAPE ARCHITECTS

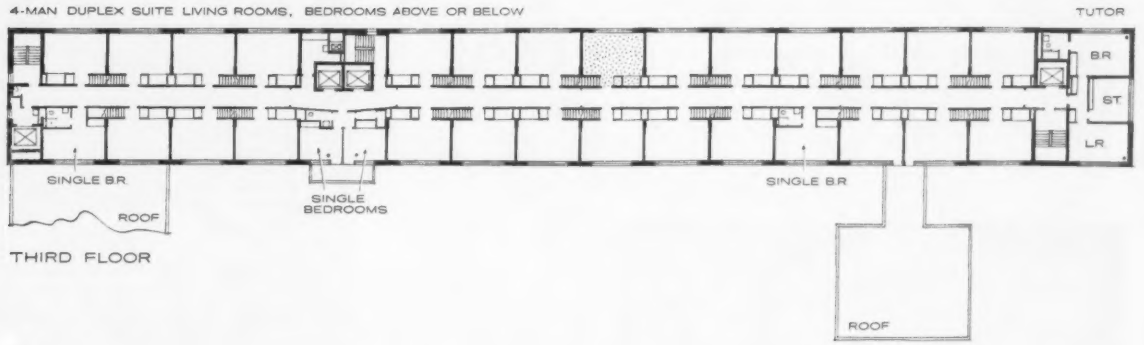
At the presentation of the 1958 "Gold Medal Award for Architecture" of the American Academy and the National Institute of Arts and Letters, Lewis Mumford said: "In Cambridge, it was the imagination of Henry Shepley that, during the dullest years of imitative eclecticism, boldly identified the new undergraduate houses of Harvard by means of white towers, capped by vivid red and azure-blue cupolas, to create from the Charles River the gayest and loveliest urban profile any American city can show."

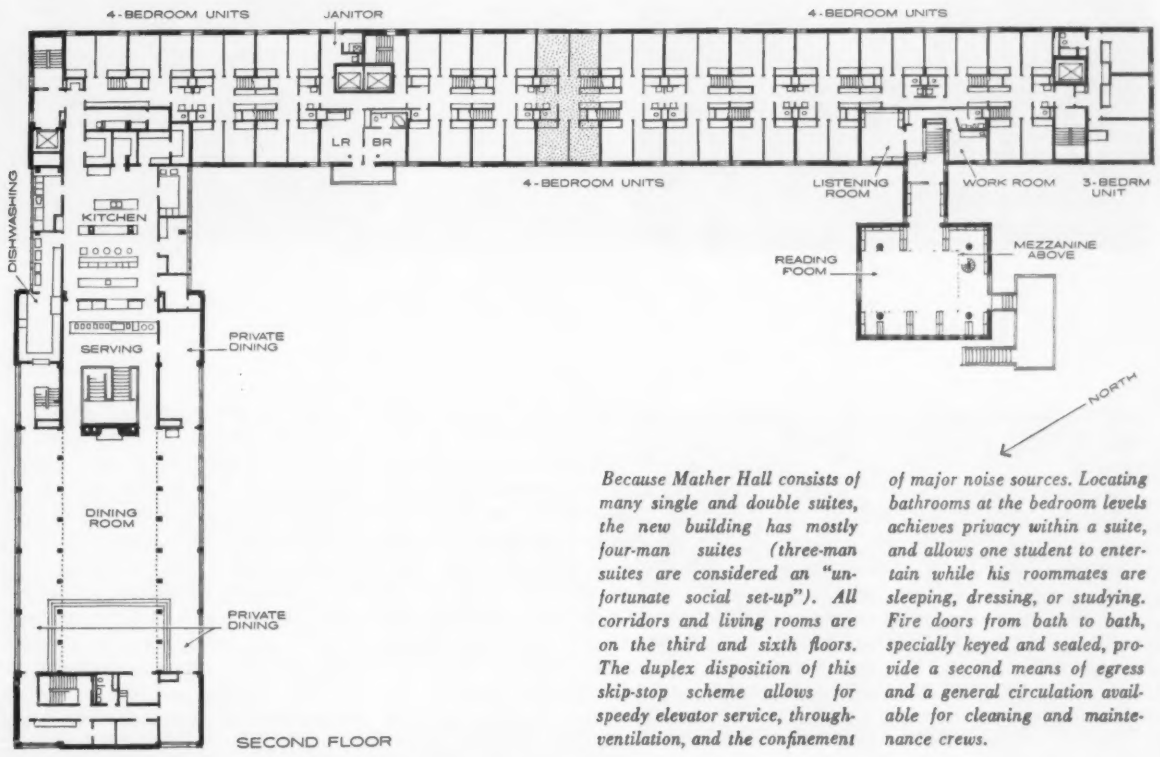
A few months ago, another under-



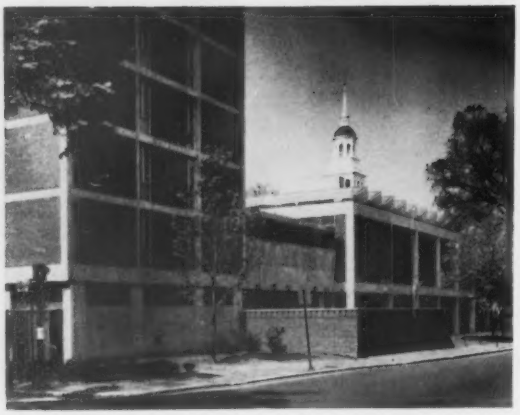

FIRST FLOOR AND SITE PLAN 50'




*Because Mather Hall consists of many single and double suites, the new building has mostly four-man suites (three-man suites are considered an "unfortunate social set-up"). All corridors and living rooms are on the third and sixth floors. The duplex disposition of this skip-stop scheme allows for speedy elevator service, through-ventilation, and the confinement of major noise sources. Locating bathrooms at the bedroom levels achieves privacy within a suite, and allows one student to entertain while his roommates are sleeping, dressing, or studying. Fire doors from bath to bath, specially keyed and sealed, provide a second means of egress and a general circulation available for cleaning and maintenance crews.*



*The approach to the design of the site was similar to the architectural approach: integration of new buildings and the current methods of construction into the existing Harvard scene, yet allowing the buildings and the site to retain their own distinct character. The landscaping problem, therefore, was one of transition from the old to the new through the use of indigenous plant material and of construction materials used in the new buildings as well as those used in the past.*

graduate house designed by Henry Shepley, has been added to the Harvard scene.

A typical Harvard "House" consists of dormitory facilities for 350 to 450 students, a large dining hall, a library for approximately 12,000 volumes, junior common rooms for students, senior common rooms for the faculty, administrative and tutorial offices, seminar rooms, game rooms, apartments for the Master and resident tutors, and accommodations for guests. The first buildings of this type came into existence in the 'Thirties when the munificence of the Harkness gift enabled President Lowell to carry out his dream of "gentlemen around the breakfast table" House System of education.

The old freshman dormitories facing the Charles were remodeled into Winthrop and Leverett Houses, the "Gold Coast" dormitories were absorbed into Adams House, and four new Houses were built: Lowell, Dunster, Eliot, and Kirkland. This elaborate program was carried out in the Georgian style by Coolidge, Shepley, Bulfinch & Abbott.

Post-war development plans called for additional Houses. As a start, Mather Hall (then part of Leverett House) and a newly acquired, adjoining block were assigned to the future eighth House, to be called Quincy House. Thus the new House inherited a building in the Georgian manner which had to be incorporated into the design. The architects were also faced with other problems: the site was smaller and the per-student budget only about one-third of the budget

for the other seven houses. Within these difficult conditions, they had to arrive at a design which would compare favorably in site layout, accommodations provided, quality of materials, and over-all attractiveness with an impressive and homogeneous group of existing buildings.

"We were convinced," they wrote, "that open space, materials, and scale were the factors on which to capitalize to achieve a House in keeping with its predecessors, yet truly modern in all other aspects.

" A series of closed-court schemes were first tried as offering the maximum quiet and privacy conducive to scholarly research. Problems of junction with the U-shaped Mather Hall and general crowding of the land soon proved this approach undesirable.

"A complex of low and tower structures was then attempted with the towers taking too much ground space to be really efficient.

"Single slabs for living quarters and separate structures for common facilities were the next solution envisaged. To be satisfactory, the capacity would have had to be greatly reduced. The next step was to concentrate all dormitory space into one long elevator slab, commons and library remaining low, while the Master was housed in a penthouse. This became the adopted solution.

"The library at first was located at half-point of the main slab, then moved to the final location on axis with Mather Hall, thus creating an undulating, flowing space rather than two distinct courts, somewhat a departure from the typical Harvard quadrangle. The small north court is 100 feet wide, as is the smallest court of adjoining Lowell House, this being considered—from the start—as minimum desirable open space.

"An 8-story slab, 345 feet long, presented an arduous challenge. The student block, six stories high, was expressed as a separate entity from the Master's penthouse and the guests' and tutors' residences on the ground. A system of depressed courts was devised to offer privacy to tutors' families with children, away from the students' courts. To mini-

*Interiors of all public spaces have a high quality of craftsmanship and a restrained character, conducive to study and producing an atmosphere of "gentlemanly comfort"* (left).

*The focus of academic and social life of the House is the Commons Building, where all public rooms with the exception of the library are located.*

*The nerve center is the two-story entrance hall* (acrosspage). *The monumental stairway, which doubles as a waiting line, leads to the dining hall* (above and right) *and private dining rooms. The serving counter disappears*

mize weight, red brick was confined to this center portion of the project, the ground floor and penthouse being generally light in value (stucco or limestone). White sash, red brick, and limestone were used throughout as the traditional Harvard colors with an emphasis on pattern, thus avoiding large unbroken surfaces of red brick.

"The size and proportion of the openings as well as their rhythmical arrangement keyed to the traditional 'student-window' became the most important element in achieving richness, variety, and scale, while retaining essentially a residential character. This is probably the most successful achievement of the whole design.

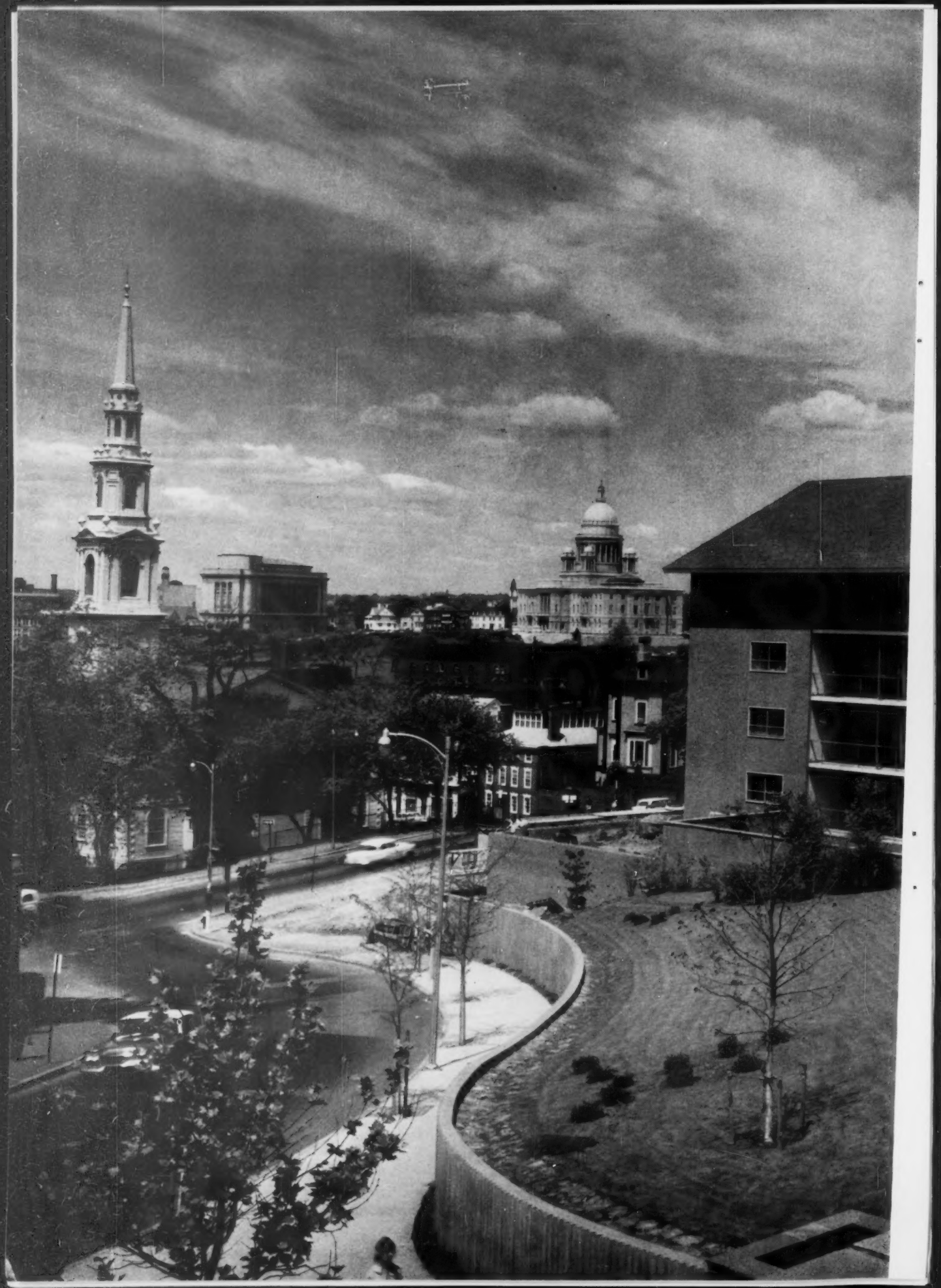
"Special attention was given to the rich plasticity of the roof lines, when low and located near Georgian counterparts. This is the main purpose of the folded slab topping the commons building (in addition to providing clerestory light to the large dining room).

"For the same general purpose, folded roofs were tried on the dormitory slab and abandoned as attracting too much attention, thus increasing visually the bulk of this structure, already large enough.

"A conscious effort was made to counterbalance the rich detailing of carved pediments, incised cornices, and other Georgian paraphenalia by special lighting effects. Students being in residence mostly during winter months of short daylight, it was thought that a carefully work-out pattern of lighting, designed by Richard Kelly, would fulfill this purpose best."

*behind a moving panel when the dining room is used for social functions such as dances, concerts, or theatre productions. The private dining rooms are then used as cloak rooms. The head table is on a raised plat form which doubles as a stage for amateur theatricals.*

***Two works by Costantino Nivola add interest to the dining room and the main hall. The graffito mural was executed by using an old technique akin to Renaissance frescoes. The sand sculpture, a medium popularized by Nivola, is lighted from above to emphasize the grainy texture.***



# R.I.S.D.
# CLIMBS COLLEGE HILL

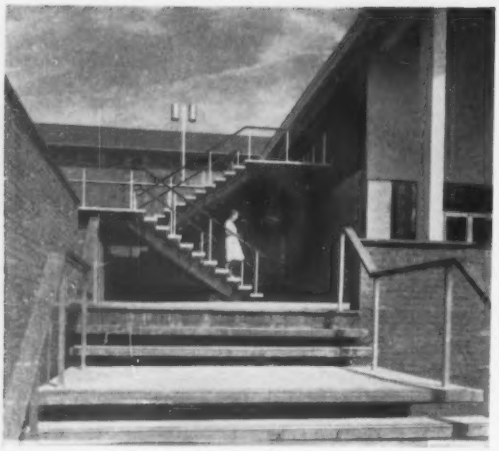
STUDENT LIVING CENTER, RHODE ISLAND SCHOOL OF DESIGN, PROVIDENCE, RHODE ISLAND • ROBINSON, GREEN & BERETTA, ARCHITECTS • PIETRO BELLUSCHI, CONSULTING ARCHITECT • SASAKI, WALKER & ASSOCIATES, LANDSCAPE ARCHITECTS

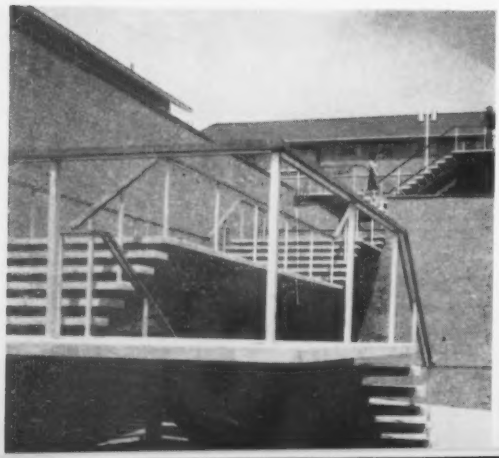
College Hill is a neighborhood unique in America for its extensive collection of historical architecture, ranging from Early Georgian to Late Victorian. It was on the western slope of this hill that Roger Williams founded his colony in 1636. The establishment of Rhode Island College, now Brown University, in 1770 gave the hill its name. The steep contours of the hill were inhospitable to the commercial and political community of Providence, which grew up instead on the reclaimed tidal flats to the west. College Hill remained a sedate area of churches, schools, and fine houses.

In recent decades urban decay has affected some parts of the hill: private mansions have been razed or "converted"; expressways have threatened. Now a far-sighted renewal program promises to restore and enhance the neighborhood (OCTOBER 1959 P/A, page 272).

The Rhode Island School of Design (RISD) was established in 1877 at the foot of College Hill. It has been a four-year college since 1947, and now offers degrees in architecture, interior design, landscape architecture, fine arts, industrial design,

Photos: Joseph Molitor





apparel and textile design, and art education. It maintains the foremost art museum in the state.

With its full-time enrollment exceeding 800, the majority from out of state, RISD's need for a residential center was evident. The congested downtown area to the west forced RISD to grow in the direction of the hill. The only available site was a city block fronting on three major streets, with a difference in grade of 80 feet from west to east.

The program called for living accommodations for 470 men and women and a dining hall to serve the entire school. Designer Warren A. Peterson helped in preparing early studies, which ranged from high-rise schemes to units of domestic scale; in the final design buildings are of a maximum height of four stories. "It was deemed most important," say the architects, "that the buildings should blend with the quiet spirit of their surroundings and not be of an assertive nature."

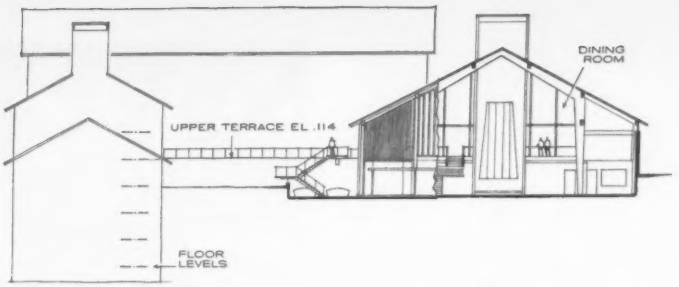
Red brick walls and slate roofs relate the buildings to local tradition. The walls of the dormitory units are relieved by recessed balconies overlooking the terraces. The detail of these balconies, executed in aluminum and white-painted wood, recalls the scale and color of traditional white woodwork.

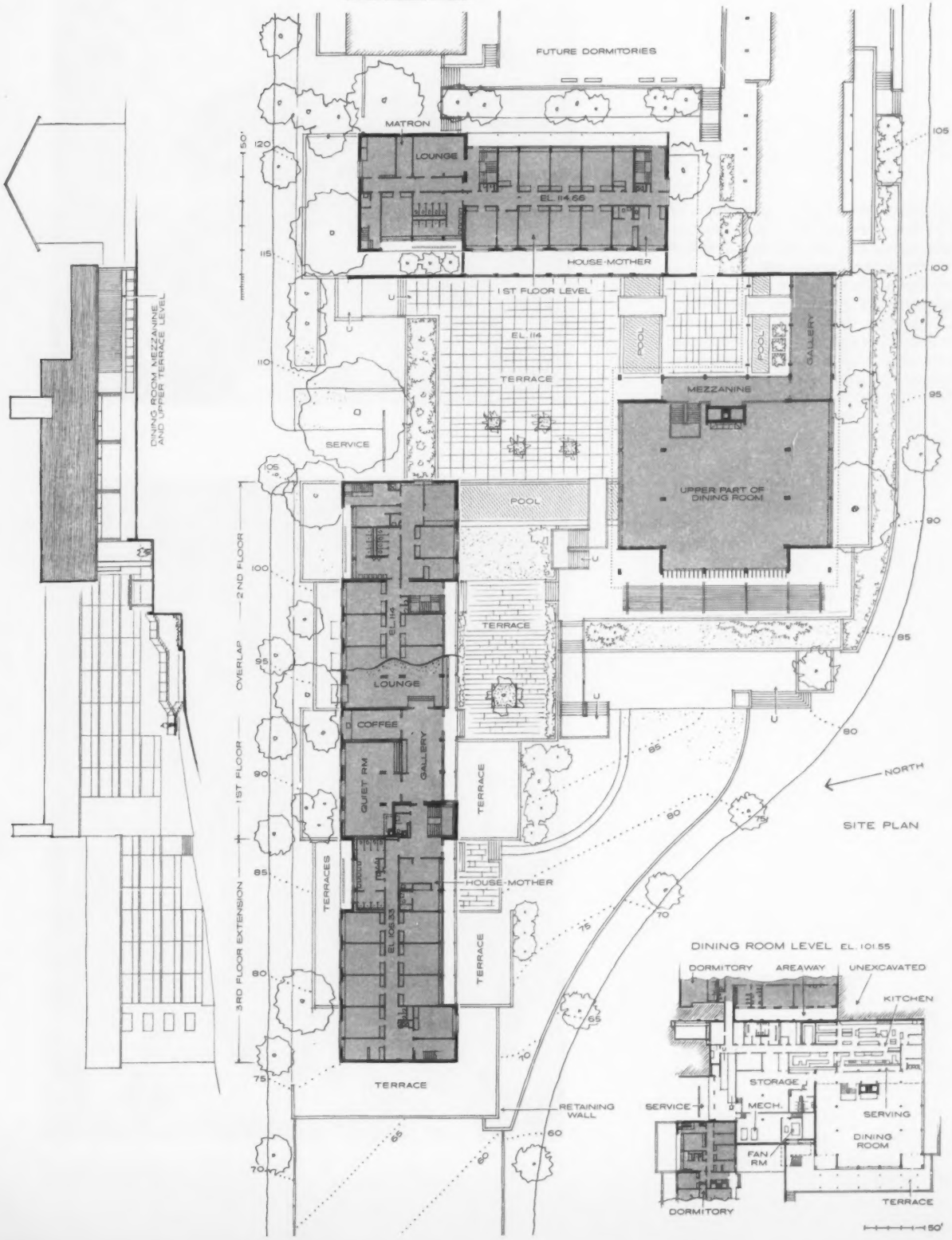
A sequence of courts and terraces in the middle of the site affords variety in space and outlook as one ascends or descends through the project. The massing of the buildings allows a maximum of sunlight in the open spaces. There is variety in the paving and planting of the terraces; two reflecting pools add interest to the upper courtyard. Stairs between levels offer frequent changes of pace and direction, making an interesting experience of an otherwise tiresome climb.

The two dormitory units and lounge building which will enclose the quadrangle at the top of the site have not yet been constructed. The completed units now accommodate 260 women; eventually the three units around the upper quadrangle will house women only, and men will occupy the lower two units.

The special needs and interests of the students were considered in planning the dormitories. The rooms are larger than usual, with movable furniture, for individuality in arrangement and space for easels and drafting boards. Corridors have been brightly painted and unevenly lighted to avoid monotony, but room walls have been left white, with special provisions for hanging art work. Common facilities in the dormitories include lounges, snack rooms, laundries, sewing rooms, and large, well-lighted work rooms.

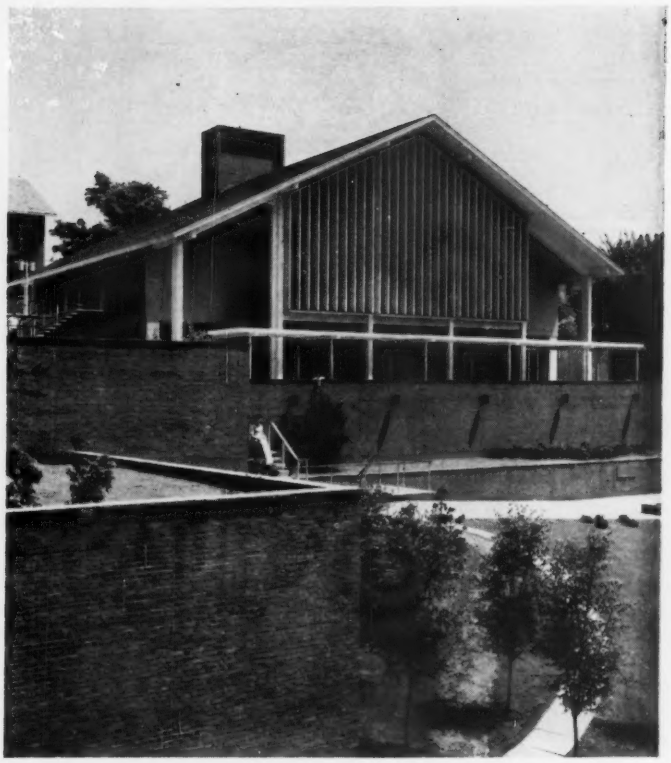
*The site is planned to provide a variety of spaces and views as one moves up or down the hill. Stairs between levels have been designed to enhance this spatial sequence* (photos acrosspage).



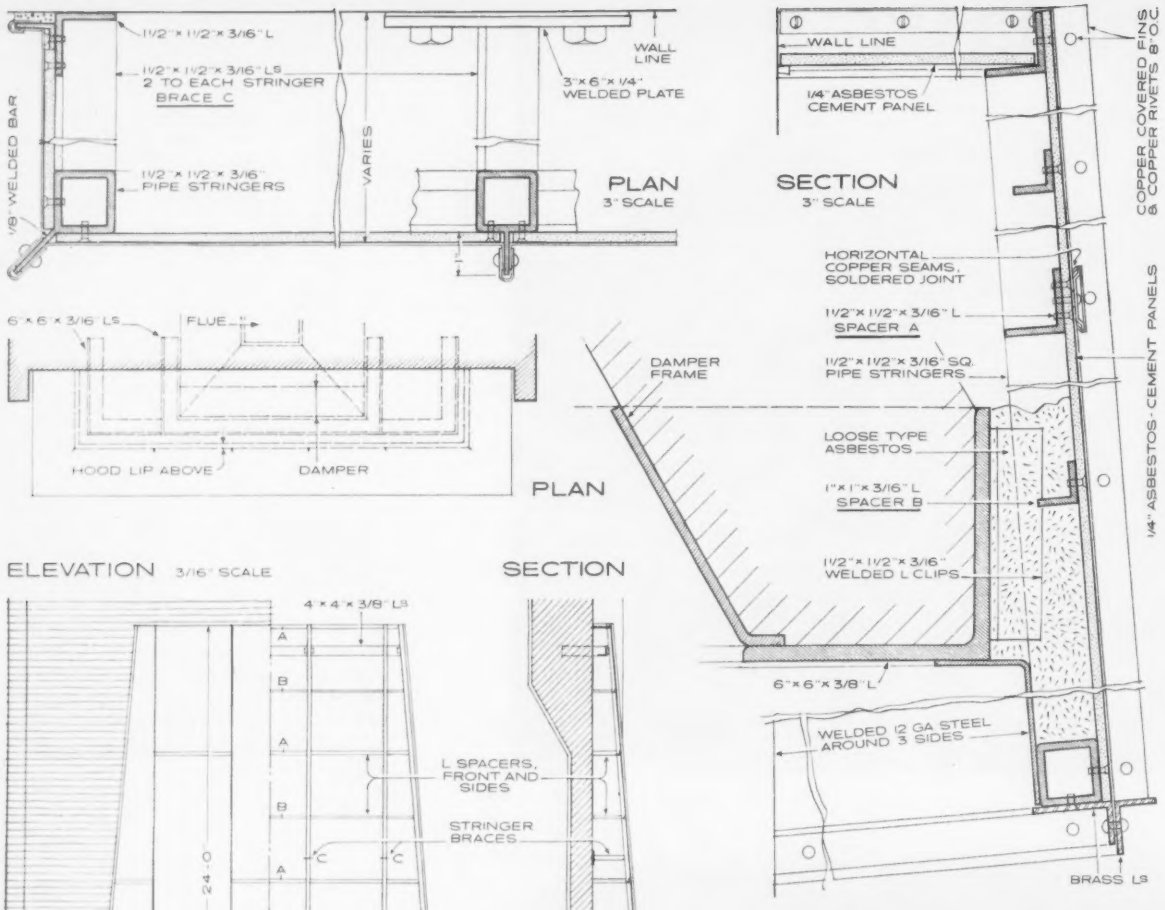
*The dining hall serves as a cafeteria for the entire school and provides a setting for social events. The main entrance is through a gallery wing at the east side* (above). *The gate shown here will eventually be the entrance to the women's quadrangle.*

*A balcony extends across the east end of the hall at the entrance level* (below). *The serving line is under the balcony, separated from the hall itself by a fire wall. The fireplace, with its copper hood, dominates this*

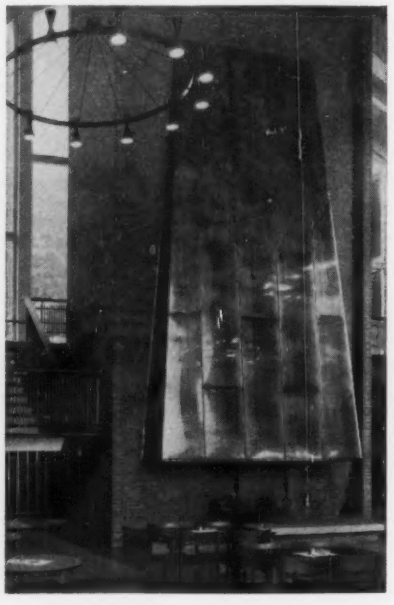


*end of the room. The chimney also accommodates exhaust ducts from the kitchen.*

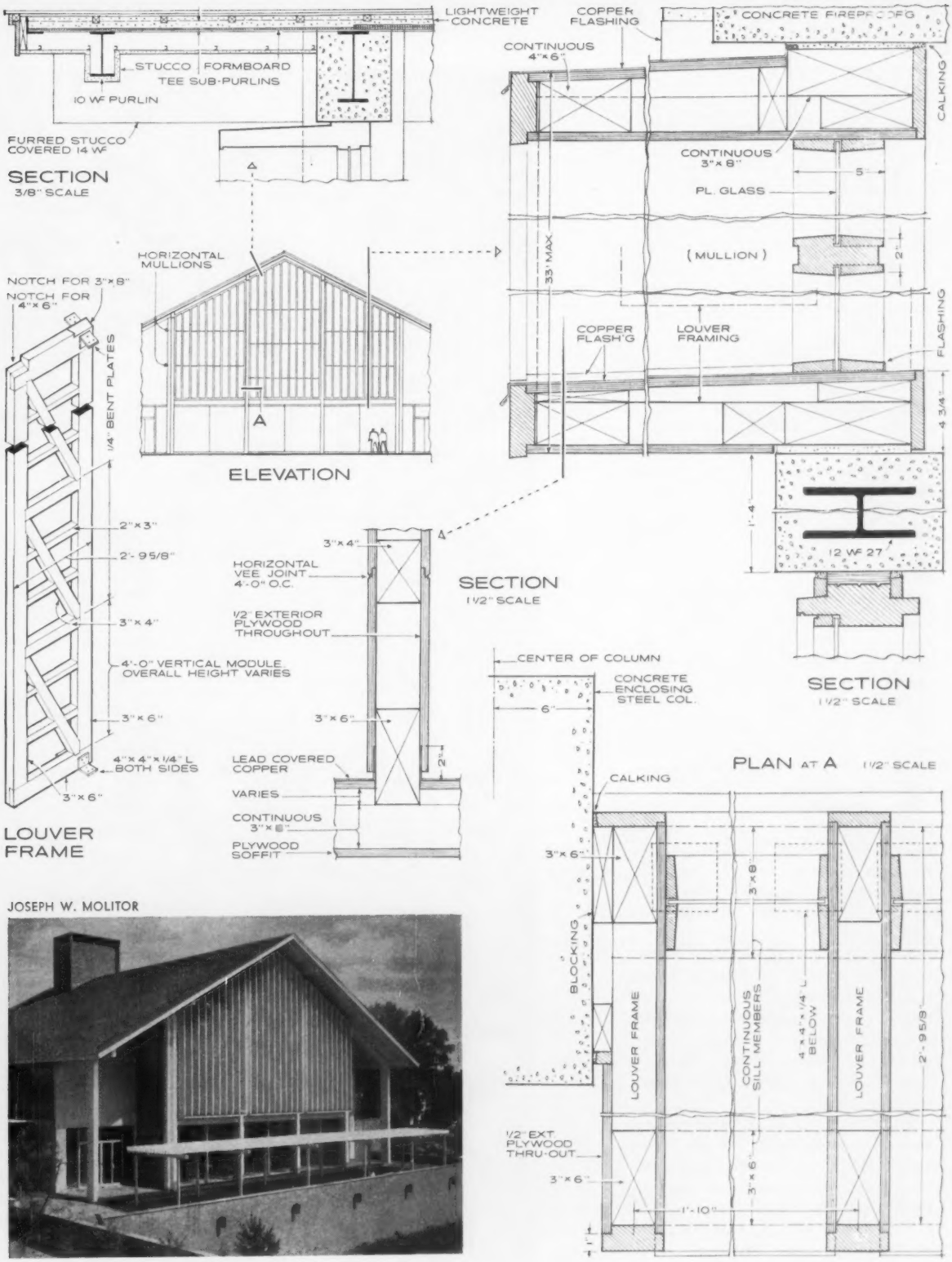
*The fireproof steel frame of the dining hall encloses a space 50 feet wide and 40 feet high at the peak. The expanse of glass on the west wall offers an exciting panorama of the city, but presents a serious sun control problem. This was solved by the use of deep vertical louvers which eliminate direct sun penetration for most of the year without obliterating the view.*




JOSEPH W. MOLITOR



| RHODE ISLAND SCHOOL OF DESIGN: Providence, Rhode Island<br>ROBINSON, GREEN & BERETTA, Architects | SELECTED DETAIL<br>FIREPLACE |
|---|---|




JOSEPH W. MOLITOR



| RHODE ISLAND SCHOOL OF DESIGN: Providence, Rhode Island<br>ROBINSON, GREEN & BERETTA, Architects | SELECTED DETAIL<br>SUN SCREEN |
|---|---|

# THE SETTING PRESERVED

FOSS HILL DORMITORIES, WESLEYAN UNIVERSITY, MIDDLETOWN, CONNECTICUT • CHARLES H. WARNER, JR. AND BROWN, LAWFORD & FORBES, ASSOCIATED ARCHITECTS • CLARKE & RAPUANO, LANDSCAPE ARCHITECTS

A sense of the natural landscape with its large meandering open spaces—a distinctive characteristic and advantage of many rural college campuses—has been captured by the architects in siting the Foss Hill dormitories. The random irregularity of nature is echoed in the variety of building heights and levels and the choice of materials as well as in the shaping of outdoor spaces.

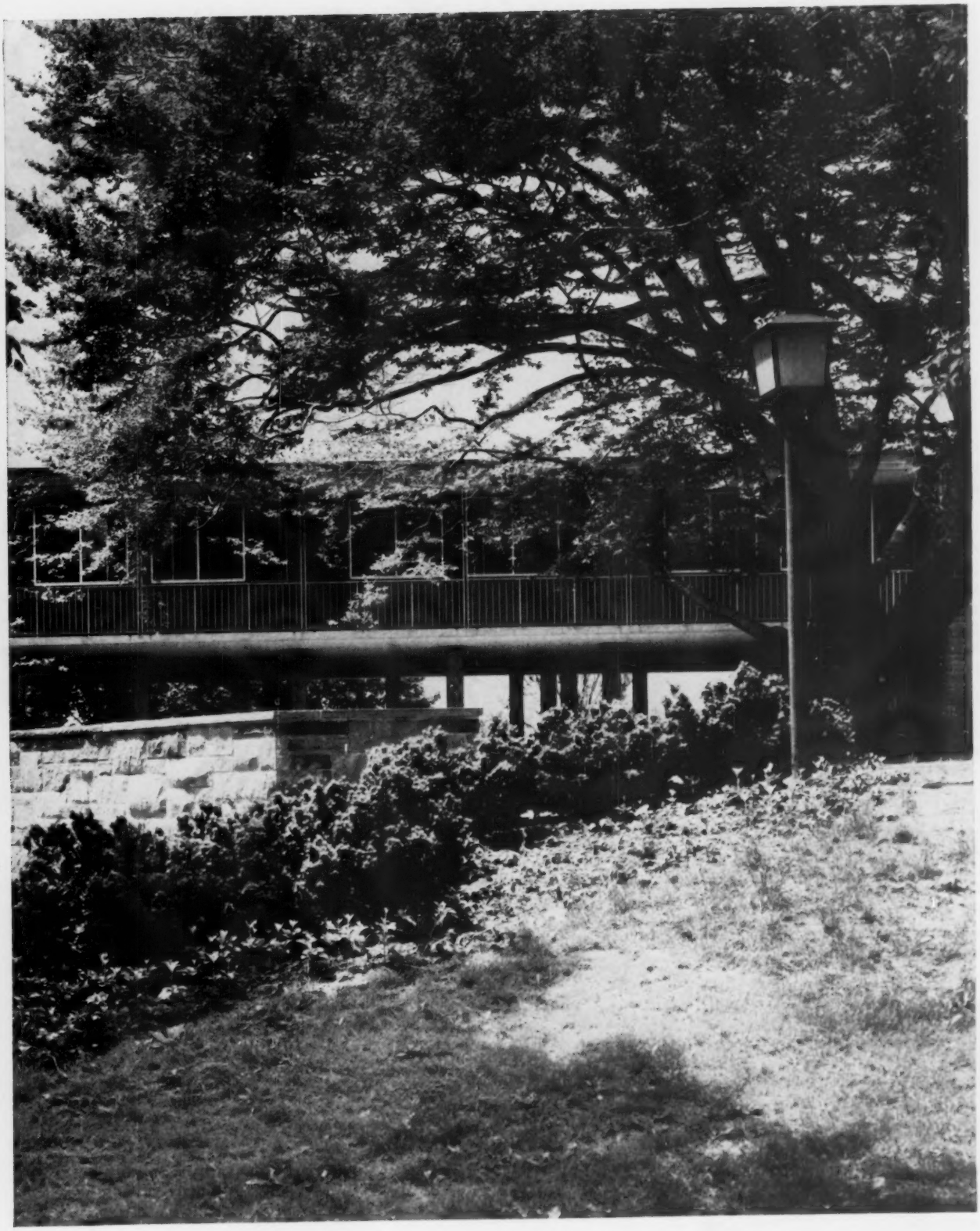
Wesleyan's President has written of Foss Hill, "It is hard to conceive of an arrangement of rooms, lounges, and landscape that better contribute to an atmosphere of study and appreciation." In addition to Foss Hill, presented here, the architects are planning a second group of dormitories for the college. Now in the design stage, the future project will continue the spirit of Foss Hill.

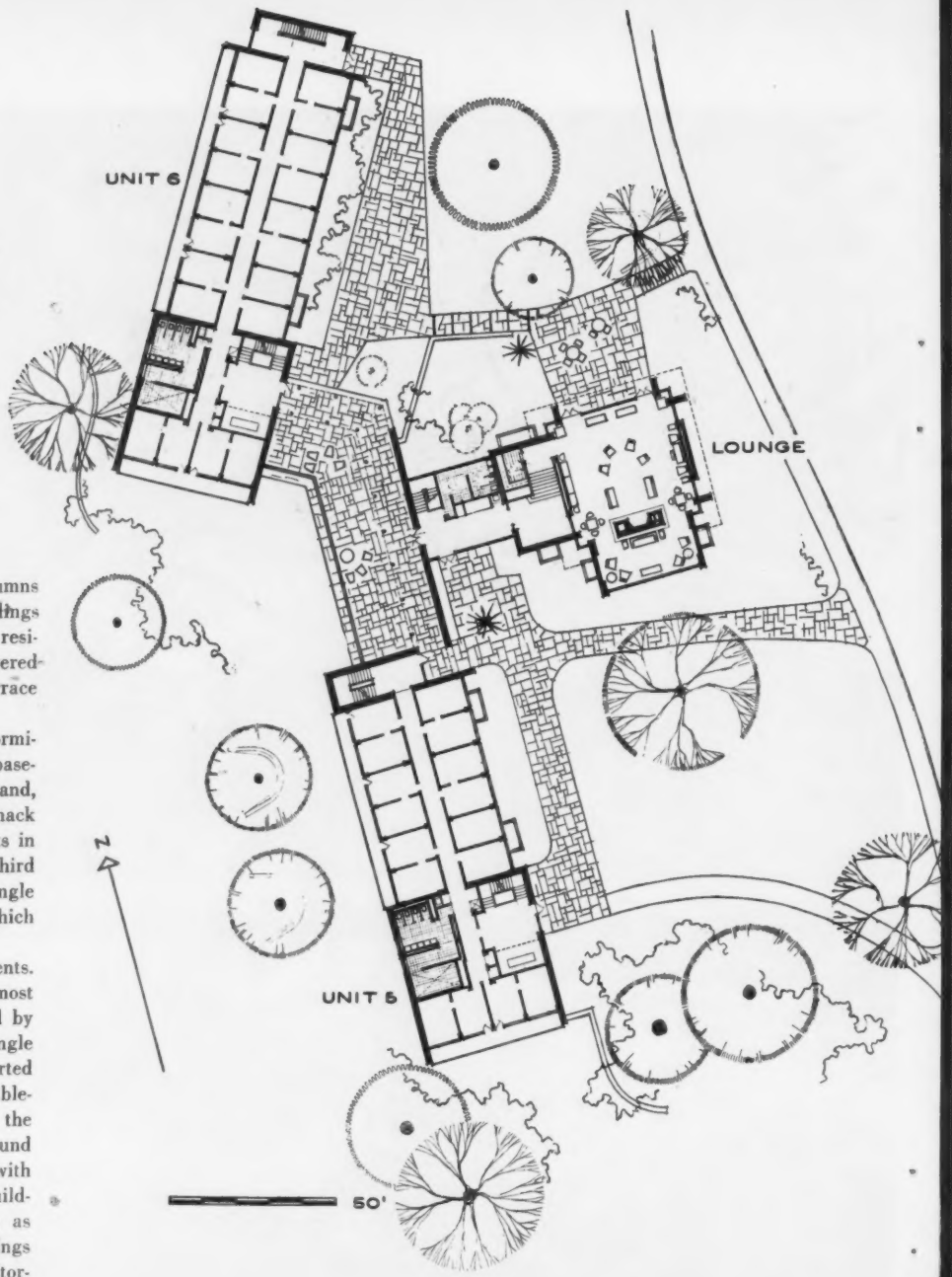
The new dormitories are on high, rolling, wooded land at the western edge of the Wesleyan campus. The college's earlier academic buildings and residence halls were built primarily of brownstone with a few in the red-brick, white-trim idiom.

In planning the project, the architects wanted to preserve the contours of the land and the site's handsome specimen trees. Equally important was the goal of a relaxed, informal environment to be achieved by a domestic scale in the buildings. The solution, they felt, was in low rambling forms.

Six dormitory buildings and three one-story lounge buildings are placed on various levels and threaded between the trees. Glass-walled links connecting the dormitories and lounges were designed to bridge over the changes in levels. The units—dormitories alternating with lounges—are grouped in two main clusters (site plan *overpage*). From the entrance to the project, under dormitory

Photos: Gottscho-Schleisner, Inc.






Unit 2 which is raised on columns (*below*), the larger group of buildings is seen. An office for the director of residential halls is adjacent to this covered area which opens directly to the terrace on the campus side.

Except for Units 5 and 6, the dormitories are two stories high with a basement level which is used for storage and, in Unit 3, a recreation room and snack bar. Units 5 and 6 house 96 students in rooms on three levels; first and third floor rooms, however, are only a single flight of stairs from the entrance which is at second floor level.

There are 211 rooms for 211 students. The rooms are arranged, for the most part, in sleeping/study suites shared by two students, though there are also single rooms and suites which may be converted to single rooms. Rooms are on double-loaded corridors; all rooms above the ground floor, and many on the ground floor, have balconies. To harmonize with the campus's earlier brownstone buildings, rough-faced stone was chosen as the dominant material for the buildings and terrace walls. Cost of the dormitories, including game rooms and lounges, was $21 per sq ft.

1

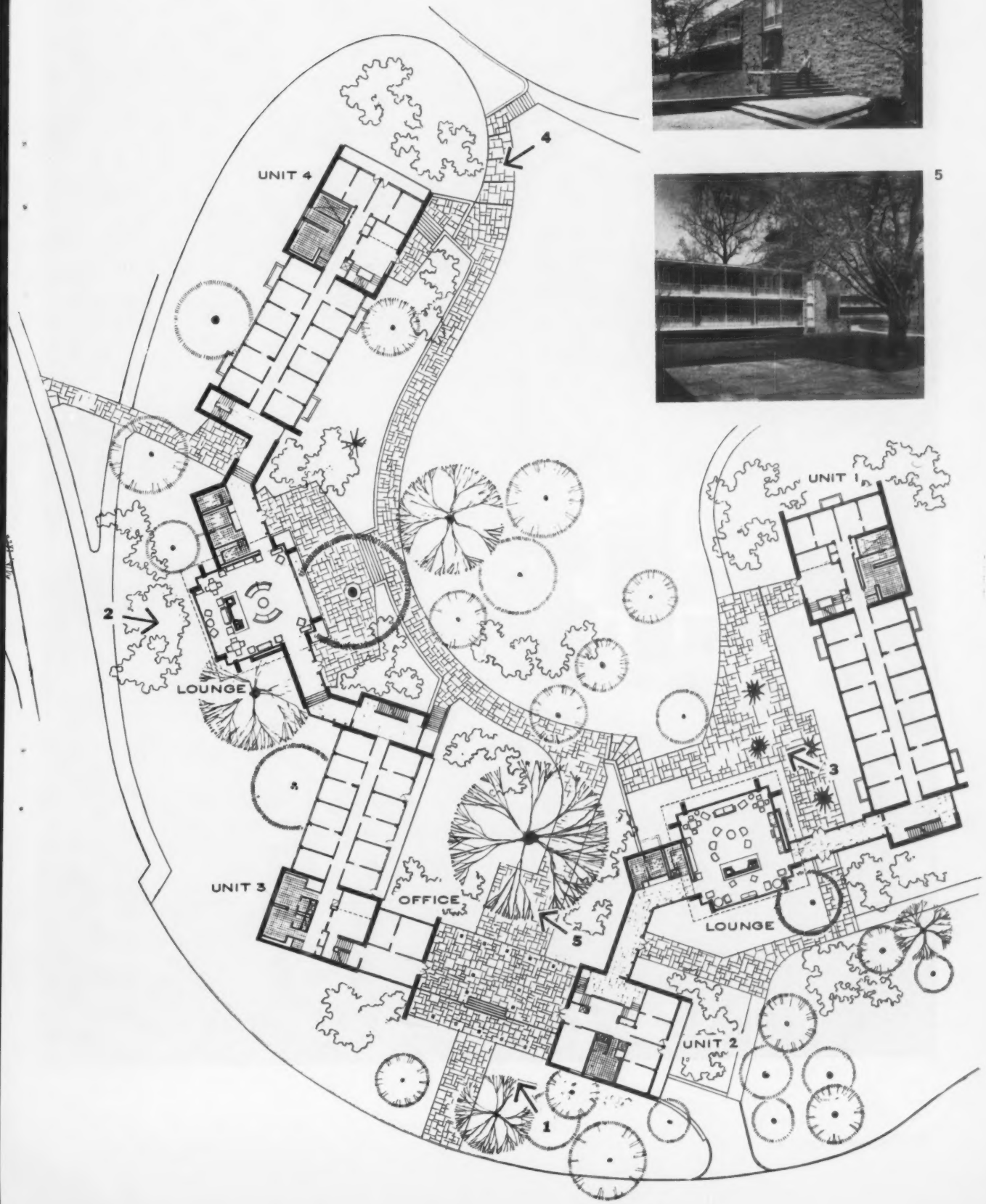
2

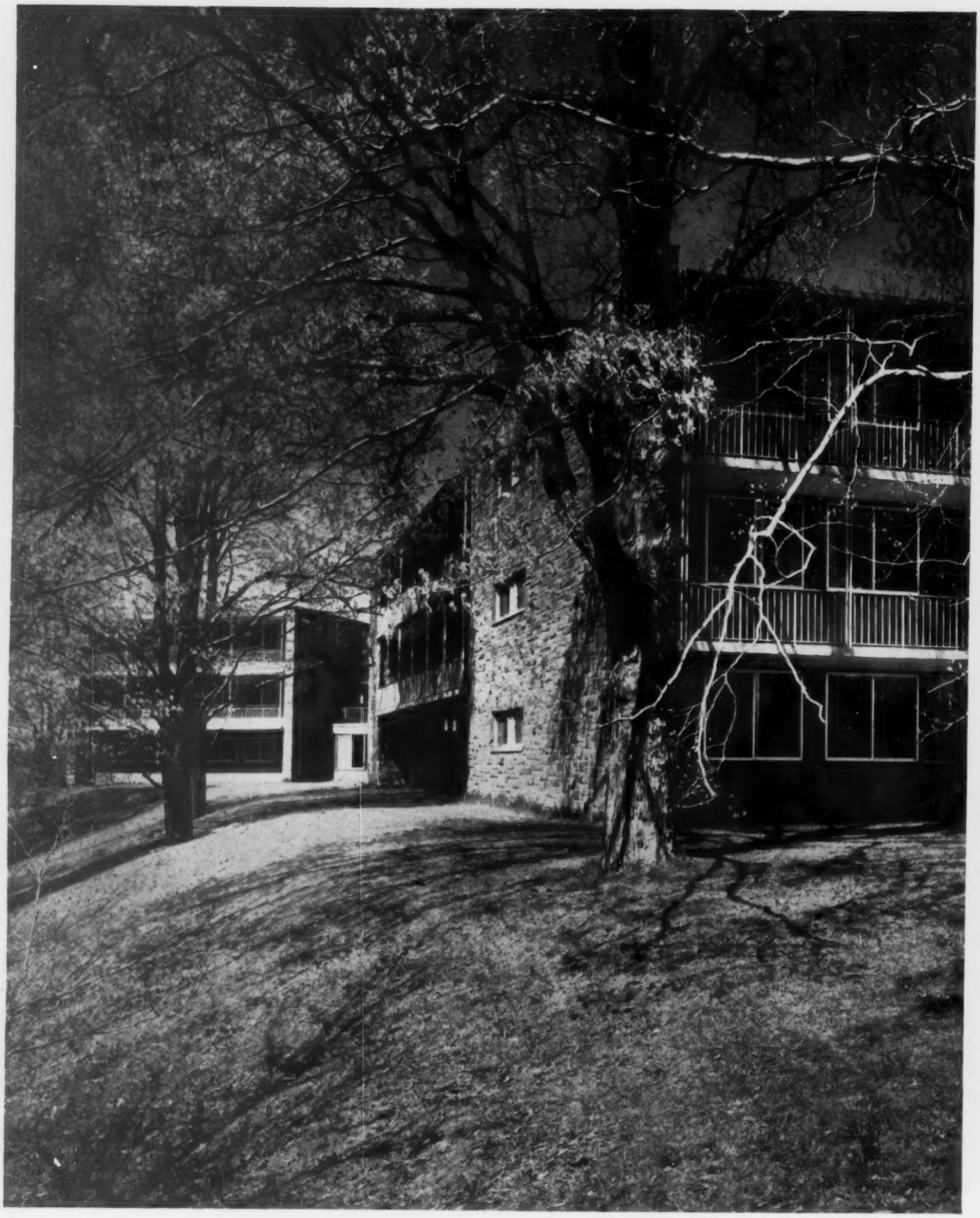
3

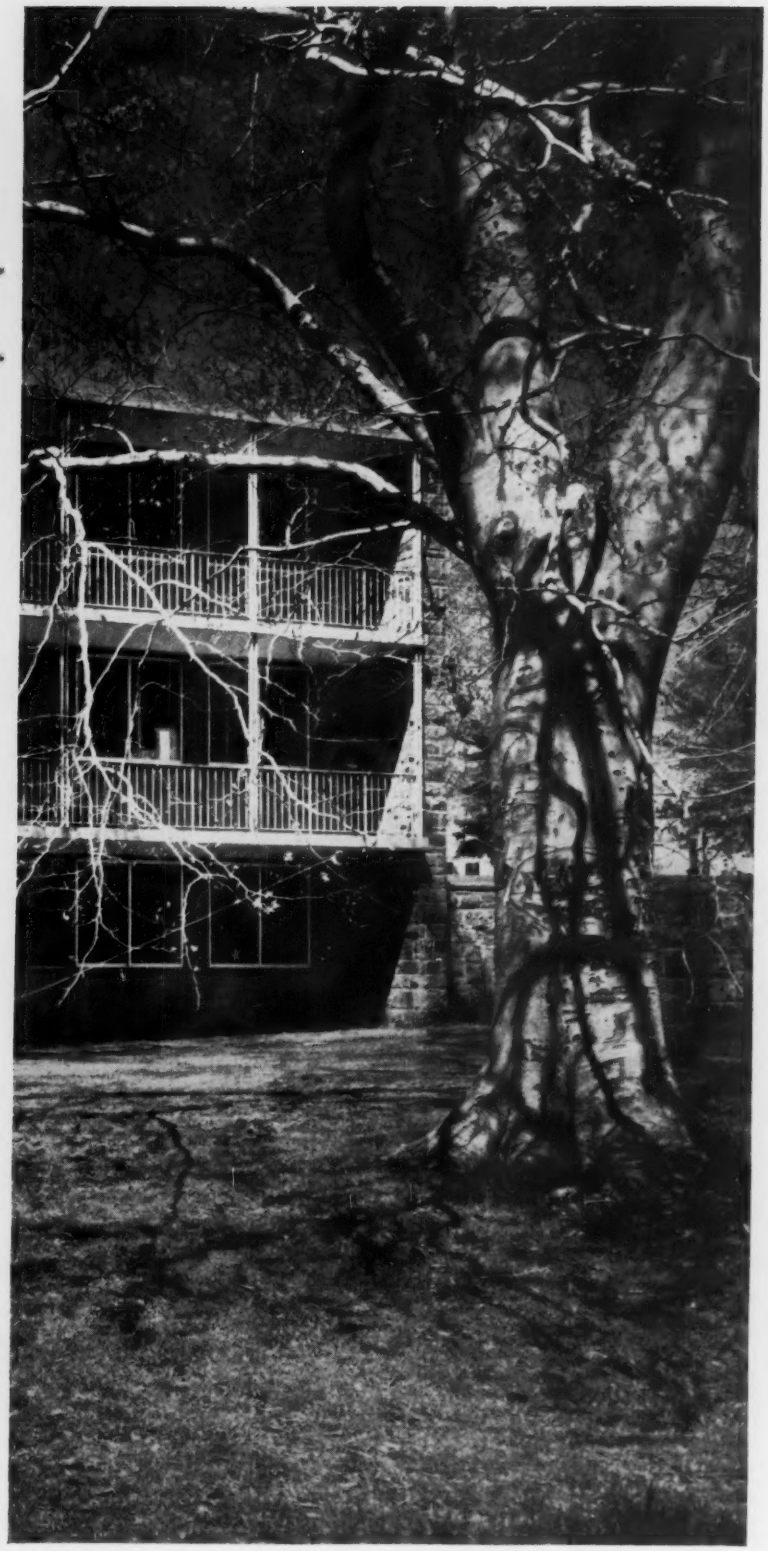
4

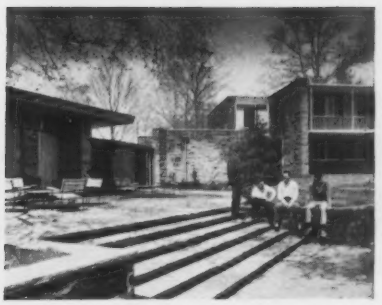


5









*Within the main dormitory cluster, the site drops more than 12 feet between the flagstone terrace at lounge B* (top) *and lounge A* (above). *The only three-story-high housing units, dormitories 5 and 6* (left), *together with their lounge, form the second cluster.*

The two dormitories presented on the following pages were planned to meet unusual program requirements. The building which John Carl Warnecke designed for the San Francisco Theological Seminary had to accommodate either single students or married couples, in units easily convertible from one use to the other. The buildings at Southwestern Louisiana Institute, by Ricciuti Associates, were required to meet difficult climatic conditions within a minimal budget.

# DORMITORY PLANNING: Two Examples

The plan of the San Francisco dormitory is based on a repeating unit which serves as a suite for four single students or as an apartment for a married couple. As a suite it includes four private rooms, with common lounge and bath. Individual privacy was an important consideration, since all students are at the graduate level. With the removal of two partitions and the space-dividing wardrobe units, and the conversion of a closet into a kitchenette, the basic unit becomes an apartment.

The building site is a constricted one, sloping sharply down to the north from the access road. These conditions demanded a narrow slab form of building running along the contours. The dormitory consists of three living floors, with five units per floor, raised sufficiently far off the ground to permit adequate through ventilation on all floors. Access to the building is by bridges at the first floor level, which lead from the road to stair towers at either end of the dormitory. Cantilevered galleries along the north side of each floor provide access to the individual units; the south side of the building is devoted to balconies, which are accessible from every room. Translucent plastic screens have been used to minimize the view into the rooms from the nearby road without cutting out natural light.

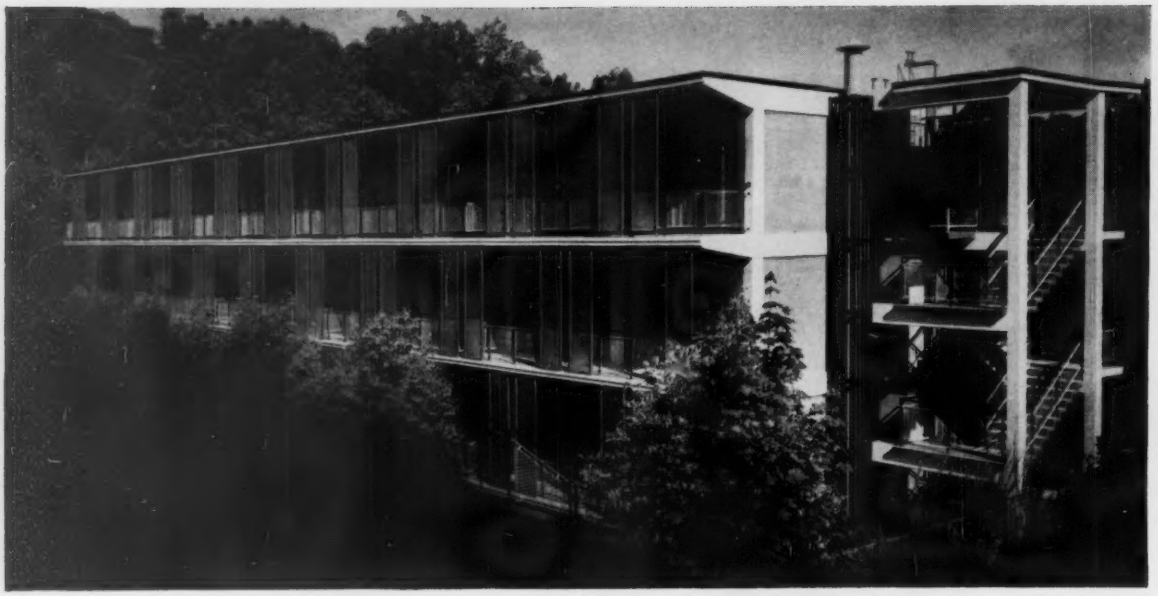
Wildman & Morris were the engineers for the reinforced concrete structure. The columns at the lower level were designed to withstand earthquake loads; varying the column section kept them from appearing massive.

The Southwestern Louisiana Institute dormitories have exterior corridors completely surrounding each building; the architects refer to them as "verandas." They have been utilized to the same effect as the verandas of Southern antebellum mansions: to keep out the summer sun; to protect the windows from rainstorms, which may be sudden and heavy in this area; and to provide convenient, economical circulation.

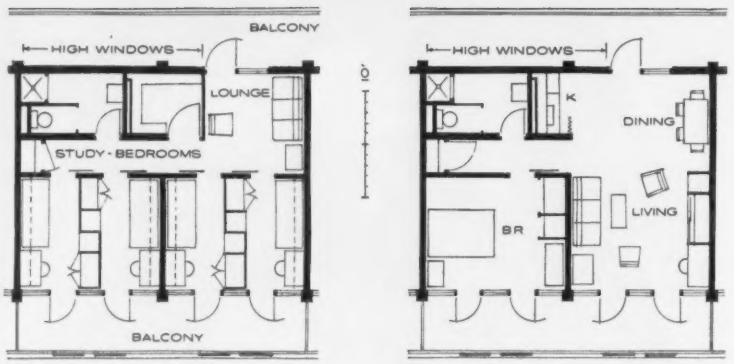
The basic unit of these dormitories accommodates eight men. It consists of two double rooms on either side of the building and a central bathroom area. One advantage of the plan is the provision for emergency exit from every room to the veranda on the opposite side of the building. Storage walls between the rooms are made up of prefabricated plywood units; they provide a wardrobe, a desk, bookshelves, and a tack-board for each student. Mechanical exhaust is provided for the bathroom areas. Louvers between bedrooms and baths allow for free circulation of air.

The structure of the dormitories is reinforced concrete. Exterior walls are made up of aluminum jalousie window units with porcelain-enamel steel panels below the windows. Brick is used for the end walls and cast-stone grills shade the stair towers. Interior partitions are of unglazed structural tile. The cost of the buildings was $13.86 per square foot, or $2,702 per occupant. Future plans call for the construction of a lounge building between the two completed dormitories.

Photos except as noted: Dandelet



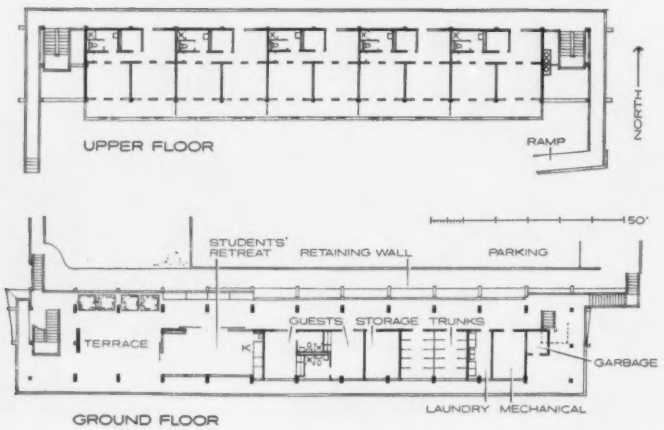
OXTOBY HALL, SAN FRANCISCO THEOLOGICAL SEMINARY, SAN ANSELMO, CALIFORNIA • JOHN CARL WARNECKE, ARCHITECT




TYPICAL 4-MAN UNIT

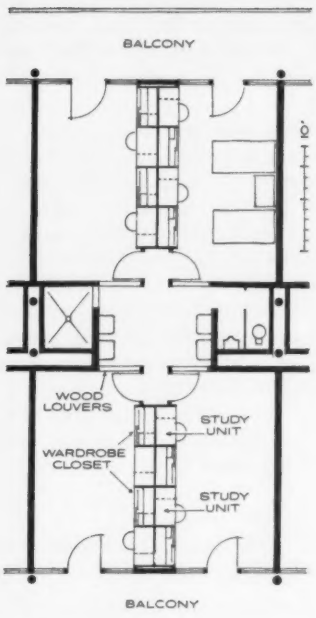
TYPICAL APARTMENT UNIT

*The living room of an apartment unit* (below) *is secluded from the nearby road by translucent plastic screens on the balcony.*




GROUND FLOOR

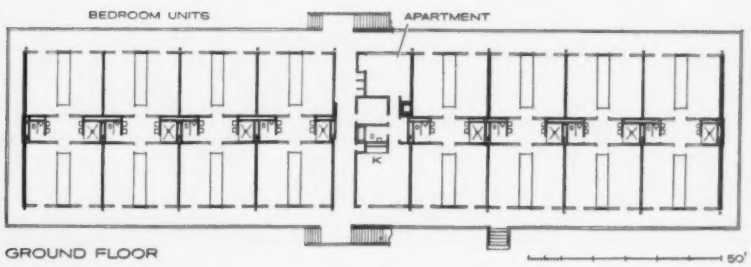
Photos this page: Frank Lotz Miller




PLAN OF BEDROOM UNIT

**MEN'S RESIDENCE HALLS, SOUTHWESTERN LOUISIANA INSTITUTE, LAFAYETTE, LOUISIANA • RICCIUTI ASSOCIATES, ARCHITECTS**

*Continuous "verandas" meet the demands of climate and economy* (above). *Desk-storage units serve as room partitions* (below).




GROUND FLOOR

# LIBRARY FACILITIES

*Special facilities for various study activities are features of libraries of Barnard College and Bennington College.*

Photos: Ezra Stoller

*The language laboratory has 29 student positions in individual cubicles which house electronic equipment for listening and recording.*

**BARNARD COLLEGE, NEW YORK, NEW YORK • O'CONNOR & KILHAM, ARCHITECTS • PHILIP M. CHU, ASSOCIATE, PROJECT DESIGNER**

The need for a quiet study area directly accessible to the book stacks is happily solved at Barnard's library. A row of carrels along the two-story-high east wall of the library (*acrosspage*) provides the individual study spaces. At the same time, the carrels, in contrast to the visual barrier of a partition, allow natural daylight to supplement the fluorescent lighting of the stacks on this level and on the mezzanine.

The carrels were designed by the architects to be portable as well as easy to maintain; they were required, in addition, to be attractive enough to inspire private donations to the building fund. The carrels are sufficiently high to give the reader who must concentrate, a sense of isolation, and yet they do not impose the feeling of confinement that an enclosed cubicle would. Built of birch with a plastic-laminate desk top, the front part of the carrel, with book-shelf space above the desk, is faced with white plexiglass.

Another room of unusual interest and one which is likely to be included in the program requirements for more schools, is the language laboratory *(left)*. The architect must achieve special acoustical conditions and design and plan workable facilities for the electronic equipment. Walls here are acoustic tile. The equipment is housed in individual cubicles designed and built by the college. Prime considerations in designing these were: privacy and acoustical control within each cubicle, clear view to the chalkboard and movie screen, and easy maintenance.

DATA: descriptions and sources of the major materials and furnishings shown.

**CABINETWORK, SCREENS, PARTITIONS**

**Carrels:** cherry wood frame, sides/cherry-pattern plastic laminate desk top/Parkwood Laminates, Inc., 33 Water St., Wakefield, Mass.; cane end panels/white plexiglass facing panel/aluminum legs and book shelf/architect-designed/custom-made. **Book Shelving:** metal stacks/birch ends/Remington Rand Inc., 315 Fourth Ave., New York, N.Y. **Language Listening Cubicles:** birch panels, frame/white plastic laminate desk top/metal pan sides/glass fiber acoustical pads/custom-made.

**FURNITURE**

**Chairs:** cherry-finish birch/architect-designed/custom-made/Milwaukee Chair Co., Milwaukee, Wis.

**LIGHTING**

**Wall-Hung Fixtures:** incandescent downlights/Lewis Smith & Co., 101 Park Ave., New York, N.Y. **Fluorescents in Language Laboratory:** Globe Lighting Products, Inc., 1710 Flushing Ave., Brooklyn 37, N.Y.

**WALLS, FLOORING**

**Walls in Language Laboratory:** acoustic tile/gray stipple on off-white/Fiberglas Sonofaced/Owens-Corning Fiberglas Corp., 717 Fifth Ave., New York 22, N.Y. **Flooring:** turquoise blue at carrels, tan gray in language laboratory/vinyl-asbestos tile/Flexachrome/Tile-Tex Div., The Flintkote Co., 30 Rockefeller Plaza, New York 20, N.Y.

**BENNINGTON COLLEGE, BENNINGTON, VERMONT • PIETRO BELLUSCHI AND CARL KOCH & ASSOCIATES, ARCHITECTS • CONTRACT INTERIORS, INC., CONSULTANTS**

Carrels for individual study spaces and a room with special equipment for language learning were also requirements for the library at Bennington. Rather than choosing wood for the dominant material, however, the interior designers here used metal for a lighter appearance.

The portable carrels (background *acrosspage)* at the stacks, the movable study tables grouped in alcoves *(bottom)*, and the tables which house recording and listening equipment *(left)* have plastic-laminate top surfaces and metal frames which are coated with a fused black vinyl finish for a rustproof, scratchproof, and chip-proof surface. The language-learning tables—designed in collaboration by the architects, college authorities, the interior designers, and the manufacturer — house equipment carefully selected for quality, durability, and flexibility.

The built-in carrels (foreground *acrosspage*) and the typing booths are constructed of walnut frames and are surfaced with acoustic tile. Further sound control is achieved in the typing room with an acoustic tile ceiling; throughout the building, the air-conditioning system was designed to run with a slight hum, creating an "acoustic perfume" to camouflage any distracting noises.

Walnut was used for the frames of the built-in carrel and typing booths, and also for the ceiling lighting shields *(acrosspage)*. Materials such as the natural oil-finished walnut and cork flooring were chosen to recall the rich interiors of older campus buildings.

DATA: descriptions and sources of the major materials and furnishings shown.

**CABINETWORK, SCREENS, PARTITIONS**

**Book Shelving:** steel with walnut ends/Library Bureau of Remington Rand, 315 Fourth Ave., New York, N.Y. **Built-in Carrels:** walnut frames/acoustical tile side walls/white plastic laminate tops/custom-made. **Portable Carrels:** walnut/steel frame/white plastic laminate top/custom-made/C. I. Designs, 348 Newbury St., Boston, Mass.

**FURNITURE, FABRICS**

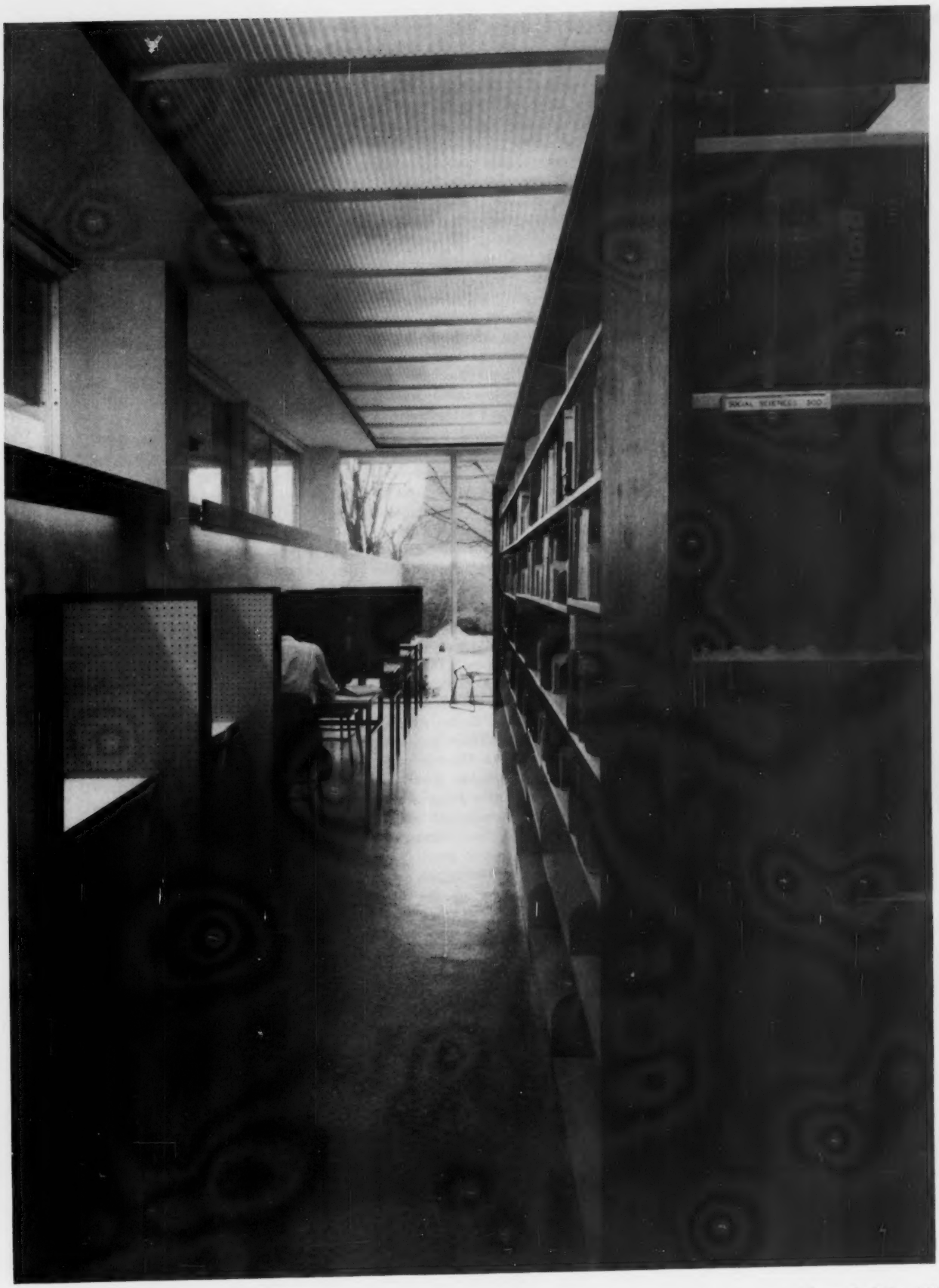
**Chairs:** steel-frame arm chairs/C. I. Designs; Heywood-Wakefield Furniture Co., Gardner, Mass.; oak frame chairs/black leather seats/Pacific Overseas, Inc., 478 Jackson St., San Francisco 11, Calif.; upholstered lounge chairs/Knoll Associates, Inc., 575 Madison Ave., New York, N.Y.; Dux, Inc., 1633 Adrian Rd., Burlingame, Calif. **Tables:** steel frame/white plastic laminate or walnut tops/custom made/C. I. Designs.

**LIGHTING**

**Luminous Ceiling:** white corrugated plastic/Contrex Company, 217 Everett Ave., Chelsea, Mass. **Light Shields:** walnut/custom-made.

**WALLS, FLOORING**

**Walls:** painted off-white. **Flooring:** cork; on grade, Corlon/Armstrong Cork Co., Lancaster, Pa.


SOCIAL SCIENCES 300

# The Cries of Our Cities

BY CONGRESSMAN
JOHN V. LINDSAY

*Architects are often irritated and frustrated by the lack of direction and co-ordination on the part of Federal agencies dealing with urban problems. In this article a Republican Representative from New York makes a plea for cabinet-level representation of the cities and proposes creating a Department of Urban Affairs.* P/A *invites discussion of this proposal from its readers.*

Let's take a tour with Mayor Jones of Urbanville through the Federal establishment. Mayor Jones and his Board have decided that an area bordering on the outskirts of his city needs supervision in its growth. He plans to undertake an urban renewal project which will involve the clearing and demolition of some run-down properties and the rehabilitation of others. He has an air pollution problem. Water and sewage facilities must be expanded. The State is planning a super-highway with expressways into Urbanville connected with the interstate highway system. The pressure will be on to do away with one of the few remaining parks to make room for roads, trucks, and automobiles. The airport facilities in a neighboring town are overtaxed, and Urbanville may need to construct airport facilities. There are rumors that a new defense plant will be constructed in the suburbs. Public housing will be needed in the redeveloped area to accommodate the increased labor force. The Veterans Administration is considering a new hospital. New high schools are needed. Mayor Jones is also worried about Civil Defense and has recently approached a local citizen to co-ordinate activities in that area.

Of course the Mayor also has an overabundance of problems in the city proper. There is a housing shortage. Low- and middle-income apartments are not available. The best talent in the city—young married couples with children—are being driven to the far suburbs. Older people living on fixed incomes can't carry the rents. Costs are rising. Mayor Jones is feeling the heat. The Governor of the State says Urbanville is not entitled to more state aid; he can't balance the state budget as it is; besides, says the Governor, schools come first and if he doesn't do something about that he'll be out of office. If he raises taxes to pay for them he'll be out even faster. So Mayor Jones packs his bag and goes to Washington, which at least has the advantage of getting him out of town for a while.

The Mayor is not quite sure where to begin in Washington. His Congressman in Washington is a member of the opposition party and has called him a boob, so he decides to figure it out for himself. He buys a Government directory and hails a cab.

His first stop is in the Housing and Home Finance Agency's Urban Renewal Administration Office where he discusses his over-all plans. Having prepared a workable program in compliance with the Urban Renewal regulations, he may be under the impression that most of his business can be transacted within this one office. He soon finds to his dismay that he must contact separately the Housing and Home Finance Agency; the Public Housing Administration; the Community Facilities Administraton; the Sanitary Engineering Division of the Department of Health, Education and Welfare; the Federal Aviation Administration and the Bureau of Public Roads of the Department of Commerce; the Veterans Administration; the U. S. Corps of Engineers in the Defense Department; and the Office of Civil Defense Mobilization in the Executive Offices of the White House. This is just a beginning. In his travels he picks up the names of half a dozen other agencies he should check into. He's never heard of most of them before. A week later he goes home with a heavy heart and an even heavier suitcase full of regulations, forms, telephone numbers, and maps.

Mayor Jones is not alone with his troubles. His problems are multiplied across the United States. He discovers in his Mayors' Conferences that all mayors have the same troubles.

The Federal Government has long been in the business of assisting cities in the solution of their problems, many of which are interstate in character. In addition, the Federal Government has always had an obligation to promote the general welfare by insuring a healthy living environment for its citizenry, almost two-thirds of which lives in cities.

To meet the needs of the cities for improved housing, community facilities, and such necessary public projects as sewage treatment and disposal, water supply, abatement of air pollution, renewal of slums and deteriorated areas, and construction of airports and highways, the Federal Government has set up a vast array of activities and programs. But these programs are administered by at least five major Federal Departments and independent Agencies, and at least as many lesser ones. Each Department or Agency has several separate Bureaus,

Divisions, and Branches, which are in some manner concerned with urban living. Each Bureau, Administration, or other office has its own requirements and regulations which must be met, whether or not they conflict with the requirements of other units.

Before long, more than two-thirds of the American people will be living in the 174 metropolitan areas of the nation.[1] The unprecedented growth in population during the post-war period alone would have created problems for the country. Between 1946 and 1958, we had a bumper crop of babies—51 million, according to the Bureau of the Census. Two other population trends are also quite evident—the "flight to the suburbs" from the central cities and the movement of substantial portions of the farm population into the urban centers.

Until the current decennial census is completed we will not have exact data on the portion of the population residing presently in metropolitan areas. Reliable estimates place it in excess of sixty percent. Regardless of what figure is selected as an indicator, the fact remains that the majority of the population live and work in urban communities, and that this trend toward a predominantly urbanized society is here to stay—it is anticipated that between 1950 and 1975 metropolitan populations will have increased by 60,000,000 people.

The 1959 Conference of the American Municipal Association reflected the uniformity of the problems which urban areas are currently facing. Most common problems were civil defense, efficient mass transportation, air pollution, adequate housing, both public and private, and the whole gamut of urban renewal and its concomitants—rehabilitation and conservation, the construction and expansion of sewage disposal and water facilities, the provision of such community requirements as hospitals, schools, libraries, recreational and other cultural facilities.

Perhaps one of the most dramatic examples of the problems of municipal governments can be found in the 1957 study made by the Special Assistant to the President for Public Works Planning. Major General John S. Bragdon found that the backlog of needed public facilities would require some $130 billion during the next decade. In addition, replacement demand between 1955 and 1965 could amount to $29 billion, and expansion could easily require a minimum of $45 billion.

The solution of the problems of urban areas is among the most important of all domestic questions facing us today. Obviously, local responsibility—state and municipal—is paramount. At the same time, the Federal Government is the government of all the people, regardless of whether they live on the farm, in the city, or in the suburbs. The problems created by the change in our geographical and social pattern are rightly the concern of the Federal Government. The problems deriving from the urbanization of the American populace provide compelling reasons for action at all levels of government.

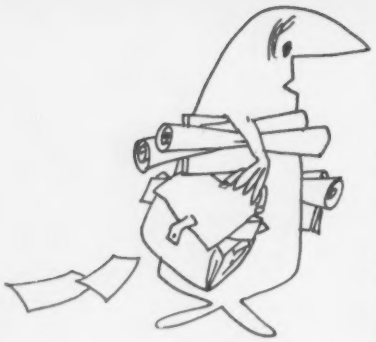
Urban centers are the nerve centers of our national economy; to allow them to deteriorate is to prepare for disaster. The city is the center which brings together labor, finance, and raw materials with which to produce the goods which nurture the national organism and it must be treated as the geographic, social, and political base for national economic planning in all its ramifications; therefore, we must accept the fact that Federal assistance in the solution of urban problems is essential and wise.

In my view, the interests of city, state, and federal governments would be more economically and efficiently served by a single executive department charged with co-ordinating all Federal activities concerned with urban affairs. This coordination would not imply the usurpation of any of the rights and privileges of other levels of government. Instead, it could serve more clearly to delineate the responsibilities and the services to be rendered by each level of government. In addition, such a department would bring the structure of the executive branch of the Federal Government up to date with our times.

Until recently we were a harmonious mixture of urban and rural communities. When the Department of Agriculture was established by the Congress in 1862 we were a predominantly rural people. When the Department of Health, Education and Welfare was established in 1953, we were rapidly becoming a predominantly urban people. Today, there is little question but that the trend is permanent and that the time is ripe for the establishment of a Department of Urban Affairs. I hold no brief for this particular name. The name itself is not important; the proper focus is vital.

I have introduced in the House of Representatives a bill which presents a somewhat different approach from past

[1] U.S. Bureau of the Census defines as "metropolitan" those areas where at least one city has a population of 50,000 or over; in cases where an area has several cities of that size, the largest city for which the area is named is called the "central city."



*"...he goes home with a heavy heart..."*

proposals in this area. The Act would establish a Federal Department of Urban Affairs. The preamble of the bill is important because it states the need for and the purpose of the legislation. It provides that Congress recognizes the rapidly increasing urbanization of the United States and the resulting problems in housing, urban renewal, slum clearance, prevention and elimination or urban blight, air and water pollution, water supply, sewage facilities, transportation, and other areas. It reminds us that as urbanization increases, the needs of our urban population also will increase. It emphasizes the importance of education, research, and technical assistance to municipal governments. It stresses the importance of focusing attention for the solution of urban problems in the highest councils of government. Accordingly, the bill provides for the establishment of an Executive Department headed by a Secretary, appointed by the President, confirmed by the Senate.

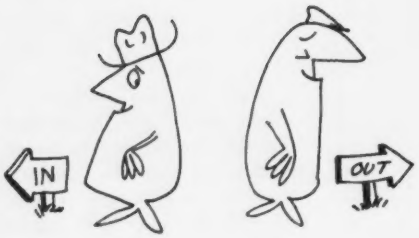
Within the Department, the Secretary shall appoint an advisory council known as the Federal Urban Affairs Advisory Council. Members of the Council shall be appointed by the President upon nomination by the Secretary from among persons with broad experience and interest in urban affairs and related problems. This Council may include persons outside the Federal service. The Secretaries of Labor, Treasury, Commerce, Health, Education and Welfare, and the Administration of Veterans Affairs shall be members ex-officio. Members of the Council shall receive no compensation for their services other than reimbursement for necessary travel and subsistence expenses. The Council will provide a forum for the co-ordination of the interrelated functions of the Departments and the establishment of an integrated policy. In the same context it will provide an opportunity to harness the combined thinking of federal, state, and local officials along with private enterprise.

The legislation transfers all functions of the Housing and Home Finance Agency and its constituent agencies to the Department of Urban Affairs. It further provides that the President shall submit to the Congress reorganization plans to effectuate the transfer of these functions and to assist appropriately in the accomplishment of the purposes of the Act.

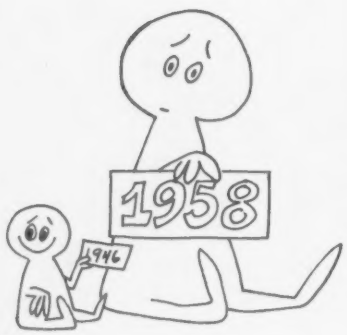
The proposal should not constitute any additional drain on the Treasury. It merely assembles under one roof all the federal functions and offices now in existence. It will permit for the first time a consistent and co-ordinated approach to this important and ever-increasing problem of urban needs.

Alas, the introduction of a new bill, such as the one I have introduced, does not mean that we shall have immediate action—I have not been around the Congress long, but long enough to know some of the problems we face in matters of this sort. But the effect of such a bill will be cumulative, and I have no doubt that, in time, the essential action will be taken.

Since what I have proposed is an addition to the Cabinet, it is important to understand how the Cabinet functions. President Eisenhower has placed heavy emphasis on the use of the Cabinet. The Cabinet structure was reorganized in 1953 and there now exists in the White House an office called the Cabinet Secretariat. Matters rating Cabinet attention are carefully programmed in advance and background material is made available to members of the Cabinet before discussion. "De-briefing" sessions are held with subordinates after Cabinet meetings to make certain that Cabinet policy is implemented throughout the vast machinery of government. I suspect that the Cabinet Secretariat will be continued under future administrations. It is logical, and it is a time-saver.




*"...population trends are also quite evident..."*




*"...we had a bumper crop of babies..."*

*"...metropolitan populations will have increased..."*

But our urban areas have no spokesman in the Cabinet. The farmers, now comprising less than 20 million people, are represented by an enormous Department of Agriculture. Business has a spokesman through the Secretary of Commerce. Our 20 million organized workers have a voice through the Secretary of Labor. The Western states are represented by the Secretary of the Interior. There is historical justification for each.

There is now more than justification for the inclusion of our cities at the Cabinet level. The exclusion of cities from the highest councils of government is one reason why policies affecting urban development conflict—when they exist at all. Urban redevelopers in one part of the government urge the redevelopment of cities in order to keep them intact, while civil defense officials urge their dismemberment. Road programs and defense construction programs are conceived without concern for the impact on city dwellers. The statistics about surplus crops on farm lands are available through the Agriculture Department, but there is no department to gather facts about the cities and their surplus people. We spend more federal money to provide and maintain storage accommodations for wheat than we do for housing homeless citizens. We spend twenty to thirty times as much on farm housing research as we spend on urban housing research. We spend more money on research about potatoes than we do on urban economics.

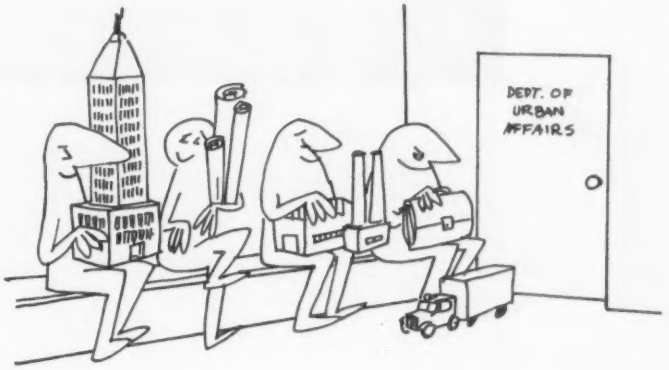
Don't misunderstand me here. Cabinet officers are not necessarily "advocates" for the groups engaged in the particular activities which they administer. They are not lobbyists before the President. But the plain fact is that they do reflect and echo in the high councils of government the thinking of these groups, whether or not they respond according to the likes of such groups. Right now the cries of the cities produce only the faintest of echoes in the highest of chambers.

Fairer legislative representation in Congress for cities is one step toward the solution of the urban problem. This is also true in the State legislatures. For example, in New York State, New York City's population is one-half the State population and yet its representation in the State Legislature is only forty-three percent. But representation is a long range problem, the solution of which provides new and perhaps greater problems outside the scope of this discussion.

*"...while civil defense officals urge their dismemberment..."*

It has been argued that the problems created by our exploding metropolises are not necessarily answered by placing federal responsibility for urban matters in a single organizational unit—that the problem is one of principle and philosophy, rather than of method. True, but the same was also true of the Department of Health, Education and Welfare. The fact of its creation has led to the gradual formulation of a philosophy establishing more clearly than in the past the separate responsibilities of federal, state, and local government. It is also argued that the problem is basically one of research. Conceded, but any one who has been in the business of research knows perfectly well that research can be wasteful and ineffective unless it is organized from top to bottom. This is what the Department of Health, Education and Welfare has done in most of the matters under its supervision. In short, it has been able to keep pace with the times, not by pre-empting local responsibility, but by determining the over-all nation-wide scope of the problem. Without intimate knowledge of a problem, one cannot solve it.

Here then is the challenge that faces us, and here is a proposal. It is not new. Others have suggested it in the past. There will be others who will arrive at the same conclusion in the future. It is to be hoped that action comes before it is too late.




*"...the time is ripe for the establishment of a DUA..."*

# ROOF-TOP PLANTING

BY ROBERT L. ZION

*Problems related to roof-top planting—both structural and horticultural—are discussed by a partner of Robert Zion-Harold Breen, Site Planners-Landscape Architects, New York, N. Y.*

Roof-top planting has intrigued mankind ever since Nebuchadnezzar commissioned his Hanging Gardens in Babylon. But most roof-top plantings today fail because they are so obviously nothing more than plantings on a roof-top—an unnatural phenomenon, and a trifle upsetting. Since it is probable that such plantings will continue to be included in large urban projects, we should like to set forth here some basic structural and horticultural considerations which may assist the architect and owner in avoiding such failures.

*Requirements of the tree:* Assuming that there is sufficient daylight (prolonged periods of direct sunlight are essential only for flowering trees), the basic requirements of the tree are three: (a) sufficient room for future growth; (b) adequate water supply; (c) good drainage.

*Size of the tree pit:* The actual dimensions of the pit will naturally vary with the size and variety of the tree. A depth of 4′ will adequately accommodate any tree and allow for proper drainage. Some trees can be planted in a depth of 3′, but this should be considered the minimum, for provision must be made for drainage at the bottom of the pit.

As for the lateral dimensions of the box, these will vary according to the size of the tree to be received and/or the maximum future size desirable from the point of view of design. When a tree is to be planted on a roof top, one must decide the ultimate spread of the crown that is desirable. Since the extent of the root system is a function of the spread of the crown, and generally reaches to the drip-line of the branches, it is a simple matter to determine adequate lateral dimensions of the tree pit.

## *How a Tree Grows*

At this point, it would be helpful to digress briefly into a nontechnical explanation of the functioning of the tree, in order to assist the architect in understanding such aspects of roof-top planting as pit dimension, future care, etc. The tree takes

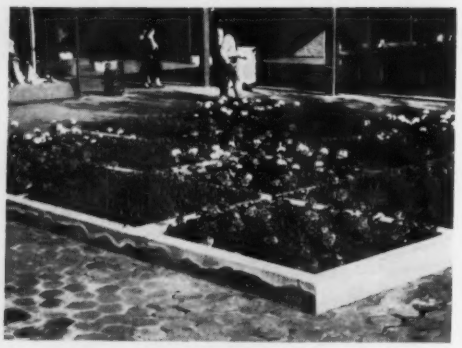
Drennan Photo Service

1

Ezra Stoller (above and below)

3

Lionel Freedman 2



4

5

its nourishment from the soil by means of vapor absorbed through the roots. The moisture taken up through the roots is given off through the leaves. The larger the root system, the greater the quantity of water taken in; the greater the number of leaves, the more moisture given off.

As a tree grows in the field, nature provides a balance between the root system and the leaf system so that the moisture given off does not exceed the amount taken in. If the supply of water is curtailed, the tips of the branches die back, thus decreasing the number of leaves and restoring the balance.

In artificial plantings, such as on a roof top, however, we must anticipate this desirable balance and compensate for a loss of root system (through transplanting) or a limit of the root system (through an architectural limit to the size of the pit). This compensation is achieved by pruning (destroying leaves or aborting leaf production) in order to prevent an overtaxing of a limited root system.

### *Watering Care*

A large tree, such as an elm, can emit through its leaves as much as 2000 gallons (15,000 lb) of water per day. The amount of water necessary to sustain a tree on a roof-top will vary with the variety and size of the tree as well as the state of its root system.

Other variable factors also determine the necessary quantity of water and the frequency of watering. For example, in a raised tree box 1, considerable amounts of water will be evaporated because of the action of the sun on the side of the box. This is not the case where the planting is flush with the roof surface 2, 3, 5.

Therefore, the proper quantity of water for each tree can be determined only by experimentation, and this should be left to an expert on the site who is in a position to observe the tree daily, watching such signs as coloring or feel-of-leaf, etc., which indicate its state of health.

It is our finding that automatic devices which water all trees in a planting, without regard for differences in individual requirements, are unsatisfactory. Trees—like human beings—vary in the amount they can drink and still remain happy. For this reason, underground saturating devices can also be dangerous, since they tend to make watering too simple and thus careless. For purposes of checking the moisture content of the soil—and this should be done regularly and frequently—it is preferable to water on the surface rather than below, so that an oversaturated condition will be visible immediately. When watering is done below the surface, frequent soil probes with an auger become necessary, often with injury to the root system.

### *Drainage*

After the depth and width of the tree-pit or box have been determined, steps must be taken to provide for rapid and thorough drainage.

The floor of the pit must be sloped carefully toward the drain. (It is essential that this slope be tested with water before the soil is installed to reveal any defect in workmanship.) From 3″ to 6″ of coarse gravel is recommended for the bottom of the pit to facilitate drainage. Between the gravel and the soil, a layer of salt hay should be provided to prevent the soil from mixing with the gravel and thereby clogging the drain.

The drain itself, contrary to the general impression, is best placed in a corner of the pit rather than in the center. Perforated pipes are so placed as to conduct water from each of the three other corners to the drainage opening. The installation of a vertical clay pipe directly over this opening, equal in dimensions to the drain itself, will permit a constant visual check on the drainage of the pit. Such a check would naturally be impossible were the drain situated in the center, beneath the earthball of the tree. Corner location also facilitates any probing of the drainage pipes should clogging occur.

It is a wise emergency precaution to perforate this vertical pipe and to surround it with 3″ to 6″ of coarse gravel. Should damage occur to the pipes at the bottom, through carelessness of plantsmen or defective materials, standing water—always fatal to a tree—can thus be prevented.

### *Further Precautions*

Some further technical considerations which arise in roof-top plantings are: *means of guying;* the *weight factor* as it affects structure; the *raised vs. flush* tree pit; and, finally, the *selection of proper species* of tree.

*Guying* is essential to the survival of any newly-planted tree. The purpose of guy wires is to reduce to a minimum the swaying caused by the wind. It is this swaying motion that pulls the young rootlets from their foothold in the fresh soil beyond the original earthball, causing them to dry out and die.

Guying in unexcavated earth can be done simply with stakes or deadmen, but in a freshly filled roof-top pit the earth offers no resistance. Hence, it is wise to incorporate hook-eyes in the walls of the box, sufficiently below the surface so that wire can be attached to the tree at ⅓ its height at an angle of 45 degrees. Naturally, the wire must be attached to these hook-eyes before much soil has been introduced into the pit.

The importance of the *weight factor* is self-evident. For determining the feasibility of roof-top planting, it is wise to allow for 3000 lb per cu yd of topsoil, and the weight of the tree can be computed at the rate of 75 to 100 lb per in. of caliber.

The *flush vs. the raised tree box* question is often settled by such utilitarian factors as headroom necessary to the function of the floor below. Where there is free choice, it is our feeling that both types can be used together very effectively, but an overuse of the raised box destroys the illusion of a natural "on-the-level" planting. The choice between flush or raised box should also take into consideration the stature of the tree to be received. A mature forest tree looks more "comfortable" in a flush planting where the limits of its roots are not immediately apparent. The raised box seems more suitable for smaller material and exotics 4.

As for *selection* of the proper trees for roof-top planting, there are considerations of temperature, sun and wind exposure, atmosphere pollution, susceptibility to disease, fibrous root system, etc. Overlooking any one of these factors will surely cause failure and replacement of a tree on a rooftop can be a difficult and costly task. For this reason, too, special care should be taken to see that the digging and planting have been expertly done.

# Composite Designs

## *IN PRECAST AND CAST-IN-PLACE CONCRETE*

BY ARTHUR R. ANDERSON

*Early use of composite construction was in bridge work and only in the last few years has it been used to any extent in the architectural construction field. Principles of composite design for structural-steel beams and concrete slabs were reviewed in July 1960 P/A. Composite construction's most recent advances, however, have occurred in conjunction with precast and cast-in-place concrete. The author's own firm—Anderson, Birkeland & Anderson, Structural Consultants, Tacoma, Washington—has been especially active in this development. Discussed here—and illustrated with detail drawings and photos of existing examples—are tests of composite connections, and column-to-footing, wall-to-column, beam-to-beam, and beam-to-slab joint details.*

*This report was originally presented as a paper before the Structural Division session on Composite Design in Building Construction at the A.S.C.E. Annual Convention in Washington, D.C.*

In recent years technological developments in the production of high-strength precast and prestressed concrete structural members have been remarkable, and to exploit the possibilities of this new material of construction, the structural designer faces a challenge. Improved production techniques now make available precast concrete with a compressive strength of 7500 psi or more. The designer, as yet unguided by codes and textbooks, must resort to imagination and ingenuity in order to capitalize on the potential of this material.

Composite-concrete structures should combine the economy and efficiency of mass-produced, high-strength elements with the advantages of continuous monolithic structures hitherto cast-in-place at the jobsite. Construction trends now clearly indicate increased use of prefab units in all materials of construction, and designers are under pressure to keep the cost of structures within reach of the client's budget. As material and labor costs creep upward, new concepts of construction must be developed.

As in all manufacturing, economy in concrete construction can be achieved through mass-production of standardized units. Thus the designer is called upon to create the standard units, and he must resort to repetition of these units. If the unit can be assembled efficiently into the completed structure, so as to become an integral part of the architecture, the maximum economy is possible.

It is obvious, therefore, that the architect and structural engineer must collaborate at the outset of the preliminary design phase. With proper teamwork, the structural engineering and the architectural design go hand in hand toward achieving a unity of design. In the early stages of a precast-concrete design, the engineer should clearly recognize all factors affecting cost—production problems, transportation, erection, and final assembly in the field. He must be alert to those factors relating to economy. He should develop sympathetic feeling for good architecture, and should encourage the architect to develop his appreciation of the structure.

To evaluate the factors affecting economy in production, the designer must become acquainted with the practical aspects of fabrication of precast concrete. Molding techniques, dimensional tolerances, assembly of reinforcement, types and location of structural and architectural inserts, influence of shrinkage and creep, and quality of finish are important factors.

Transportation and erection of precast members involve a study of handling methods, allowable weights and dimensions, provisions for structural security during assembly, and suitable connections between members. When one compares the design procedure for conventional cast-in-place concrete with that for precast composite concrete, it is obvious that the latter is more demanding. The structural engineer must not only analyze the structure as finally built, but must also consider what happens to the individual members during several stages of construction. His design may include several separate stress analyses and also may require a special procedure for manipulation of stresses in the composite structure.

During the past decade, considerable progress has been made in the development of precast-concrete structural members, particularly with prestressed concrete. With continued research and development, we can expect to see further progress in the creation of high-performance structural sections in precast and prestressed concrete. When the engineer has achieved the desired sections, their assembly into a completely integrated composite structure introduces further problems, involving the details of connections between members. Design of satisfactory structural connections between prefab-concrete members and cast-in-place concrete calls for an understanding of their behavior when subjected to tension, compression, bending, shear, or a combination of any of the four.

### *Tests of Connections*

Until design criteria for precast-composite concrete connections are established, it may be necessary for the structural engineer to prepare prototypes of the connections and subject them to load tests. Many of the tests may be relatively simple; nevertheless, the results obtained in some cases can contribute substantial savings to the cost of a structure.

One of the most obvious *tension* connections between precast concrete members is made by the welding of projecting reinforcing bars. If the connections are designed in this manner, high-carbon hard-grade bars should be avoided. Although intermediate-grade reinforcing steel has a relatively high carbon content (0.30 to 0.60 percent), it can be suitably welded if certain precautions are specified. Low-hydrogen electrodes, AWS class E7015 or E7016, should be used. Preheating and controlled cooling are important, particularly if the welding is done in cold weather. Tests carried out on welded joints of intermediate-grade reinforcing bars indicate that, when connections are properly made, the tensile yield strength of the bars can be developed without difficulty. Results of tensile tests, made on three types of welded connections of intermediate-grade

reinforcing bars in sizes No. 3 through No. 9, are shown (*Table I*). Connections Type II and Type III were made by welding a short lap of the bars. Because of eccentricity, the failure load was hastened by rotation of the joint. When embedded in concrete with adequate lateral support, these connections obviously have a better performance. The Type I connection utilizes a short angle bar, and although requiring more material, this concentric arrangement may be preferred in certain situations.

Another form of tension connection can be made by projecting the reinforcing bar of one member into a sleeve embedded in the adjacent member, which at the time of erection is filled with a thick, neat cement-paste grout. To develop a good bond between the sleeve and the contiguous concrete and grout, the use of spiral flexible metal hose is recommended. Pull-out tests on this type of connection show that the ultimate tensile strength of the bar can be developed in less than 14 bar diameters 1, 2.

A satisfactory *shear* connection can be obtained by casting fresh concrete against previously hardened concrete whose surface is roughened with undulations approximately ¼″ in depth. When the roughened surface of the hard concrete is coated with a neat cement slurry, immediately before the casting of the fresh concrete, an excellent bond results. The ultimate shear strength of the joint varies with the amount of reinforcing steel projecting through the joint interface. A series of tests on such joints have been carried out 3, 4. From the test data, it is evident that shear keys in concrete are redundant when the interface surface is cast rough.

*Compression* connections between precast members can be made by filling the joint with concrete or grout. Shrinkage can be avoided by drypacking, or using an expanding admixture such as aluminum powder or "Embeco" aggregate. Where high concentrations of bearing stress occur near the edges, the concrete should be confined by encasing the end of the member in steel to avoid the danger of spalling. The efficacy of such confinement, where concentrated bearing stresses near the edge of the section exceeded 40,000 psi, is illustrated 5.

## *Joint Details: Column to Footing*

Joint details most often encountered in precast composite-concrete construction are: (a) column to footing, (b) wall to column, (c) beam to column, and (d) beam to slab. In practice, the number of possibilities for joining members together is almost without limit. Several types of joints or connections which have been determined satisfactory by test and experience are described below.

A simple detail of a footing connection for a one-story precast column or post is shown 6. The footing is cast with a rough top set about an inch below finish elevation, allowing a grout pad to

Table I. *Tensile tests on three types of welded connections using intermediate-grade reinforcing bars.*

TYPE I

| Bar Size | Bar $A_s$ in.² | Weld Size—in. L | Weld Size—in. t | Weld A in.² | $P_y$ lbs. | $P_{ult}$ lbs. | Bar $f_y$ psi | Bar $t_s$ psi | Weld Shear psi | Failure |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 0.11 | ¾ | 5/16 | 0.28 | 6,400 | 9,900 | 58,200 | 90,000 | 35,400 | bar $t_s$ |
| 4 | 0.20 | 1 | 7/32 | 0.44 | 10,700 | 16,100 | 54,000 | 80,500 | 36,600 | bar $t_s$ |
| 5 | 0.31 | 1¼ | ¼ | 0.62 | 17,000 | 22,700 | 54,800 | 73,200 | 36,600 | weld |
| 6 | 0.44 | 1⅜ | 9/32 | 1.05 | 20,500 | 34,000 | 46,500 | 77,000 | 32,400 | bar $t_s$ |
| 7 | 0.60 | 2¼ | 5/16 | 1.41 | 31,000 | 46,000 | 51,600 | 76,600 | 32,600 | bar $t_s$ |
| 8 | 0.79 | 3 | 3/8 | 2.24 | 37,500 | 60,000 | 47,500 | 76,000 | 26,800 | bar $t_s$ |
| 9 | 1.00 | 3½ | 7/16 | 3.06 | 50,000 | 76,000 | 50,000 | 76,000 | 24,800 | bar $t_s$ |

TYPE II

| Bar Size | Bar $A_s$ in.² | Weld Size—in. L | Weld Size—in. t | Weld A in.² | $P_y$ lbs. | $P_{ult}$ lbs. | Bar $f_y$ psi | Bar $t_s$ psi | Weld Shear psi | Failure |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 0.11 | ¾ | 5/16 | 0.28 | 6,030 | 6,950 | 54,800 | 63,200 | 24,800 | rotation of joint due to eccentricity |
| 4 | 0.20 | ⅞ | 7/32 | 0.38 | 10,100 | 11,800 | 50,500 | 59,000 | 31,100 | |
| 5 | 0.31 | 1¼ | ¼ | 0.62 | ND | 19,500 | ND | 63,000 | 31,400 | |
| 6 | 0.44 | 1⅝ | 9/32 | 0.92 | ND | 23,500 | ND | 53,500 | 25,600 | |
| 7 | 0.60 | 2 | 5/16 | 1.25 | ND | 28,500 | ND | 47,500 | 22,800 | |
| 8 | 0.79 | 2¾ | 11/32 | 1.89 | ND | 42,800 | ND | 54,200 | 22,600 | |
| 9 | 1.00 | 3⅜ | 3/8 | 2.54 | ND | 58,100 | ND | 58,100 | 22,800 | |

TYPE III

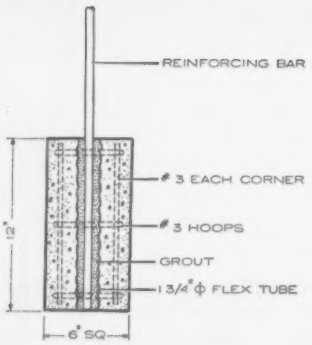
| Bar Size | Bar $A_s$ in.² | Weld Size—in. L | Weld Size—in. t | Weld A in.² | $P_y$ lbs. | $P_{ult}$ lbs. | Bar $f_y$ psi | Bar $t_s$ psi | Weld Shear psi | Failure |
|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 0.11 | 1¾ | 5/16 | 0.26 | 6,200 | 9,500 | 56,500 | 85,500 | 37,500 | rotation of joint due to eccentricity |
| 4 | 0.20 | 1⅞ | 7/32 | 0.30 | 10,200 | 12,300 | 51,000 | 61,500 | 41,000 | |
| 5 | 0.31 | 2½ | ¼ | 0.62 | 16,300 | 19,200 | 53,500 | 62,000 | 31,000 | |
| 6 | 0.44 | 3⅛ | 9/32 | 0.88 | 20,800 | 29,000 | 47,200 | 66,000 | 23,600 | |
| 7 | 0.60 | 4 | 5/16 | 1.25 | 32,000 | 37,000 | 53,400 | 61,600 | 29,600 | |
| 8 | 0.79 | 5¾ | 11/32 | 1.85 | ND | 53,700 | ND | 68,000 | 29,000 | |
| 9 | 1.00 | 6⅞ | 3/8 | 2.39 | ND | 71,800 | ND | 71,800 | 30,000 | |

ND = Not determined.

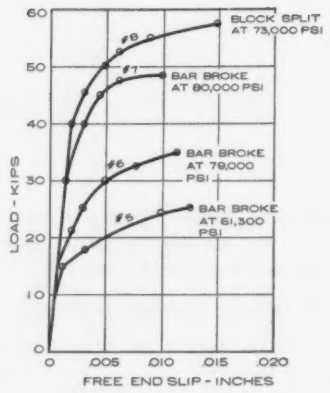
All bars are intermediate-grade billet steel, ASTM A15, rolled to ASTM A305.

All welding electric are with low-hydrogen electrodes AWS class E7015 or E7016. On multiple passes, surface is thoroughly cleaned prior to welding next pass.

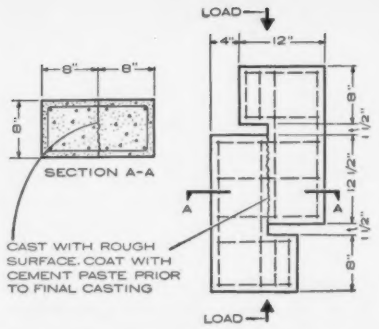
On Type I joints, cross-section area of structural angle bar should be at least 1.5 times the reinforcing bar cross-section.



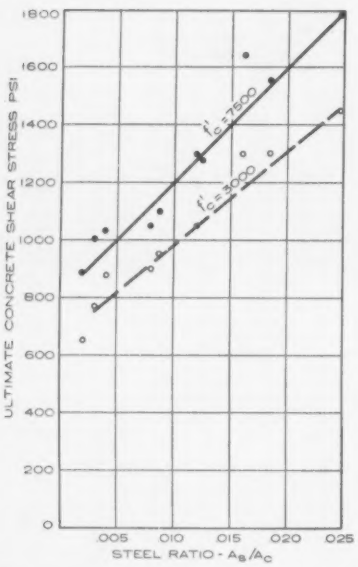

1 *Pull-out test specimen. Concrete block cast with spiral flexible metal tube in center. Concrete $f'_c = 6000$ psi. Tube was filled with neat cement-paste grout of thick consistency, and deformed reinforcing bar was placed by forcing it into the grout. Estimated compression strength of grout at time of test: 6000 psi.*



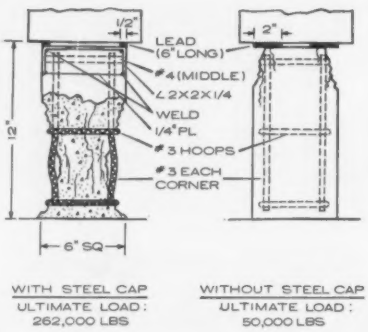

2 *Pull-out test results. Bar sizes No. 5, 6, and 7 fully developed tensile strength and broke outside the concrete block. Block containing the No. 8 bar split vertically on all four sides when the steel tension reached 73,000 psi, and the bar, with grout and flexible metal tube intact, was pulled out of the block.*



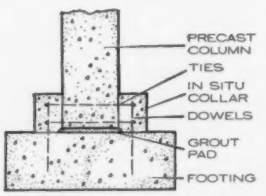

3 *Left side of specimen was cast first with 7500 psi concrete, leaving a roughened surface on the joint face. The steel crossing the rough face varied from two No. 2 hoops to four No. 5 hoops ($p = 0.002$ to $0.0248$). Second half of the specimen was cast against the hardened concrete of the first half using two concrete strengths, $f'_c = 3000$ psi and $f'_c = 7500$ psi. When loaded in pure shear, the specimen behaved like monolithic concrete up to loads of 75 to 85 percent of ultimate, at which time slip of the joint started.*



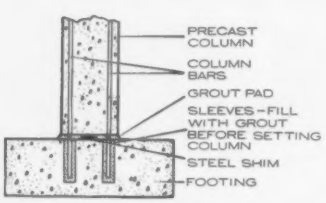

4 *Ultimate concrete shear strength of composite specimens with varying percentages of reinforcing steel projecting across the joint face. Specimens are delineated in* 3.



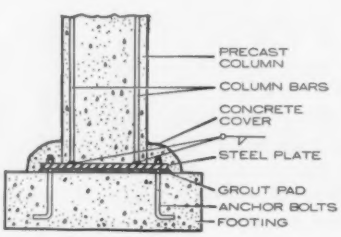

5 *Reinforced concrete compression specimens with concentrated loads placed at the upper edges. Concrete compression strength at time of test: 7000 psi. When confined by steel cap, the specimen sustained a concentrated compression stress of 43,700 psi at the top edges. Without the steel cap, the concrete failed at the upper corners at a stress of 2080 psi.*



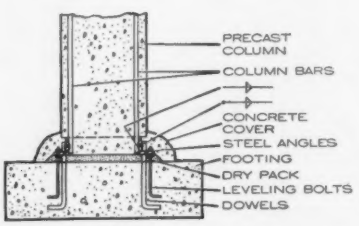

6 *Precast column on footing with accurately placed grout pad. Grout pad is allowed to harden before setting column. Base of column is cast square and flat. In situ collar (cast-in-place concrete) is placed after erecting and bracing column.*



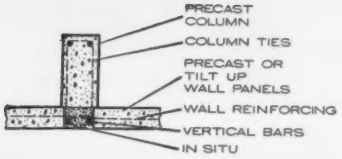

7 *Precast column on footing in which grouting is done at time of erection. Base of column need not be as accurate as in* 6, *but more time may be required in setting for accurate alignment.*



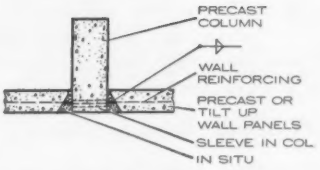

8 *Precast column with a steel-plate base. Leveling nuts may be placed under the plate for convenience in erecting.*



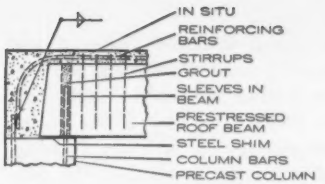

9 *Precast column with an angle-bar collar at the base. Column bars are welded to angle, and, after erection, footing dowels are welded to opposite side of angle. This connection is advantageous where high-moment-resisting joint is required.*



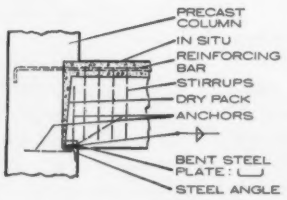

**10** *Precast column and precast wall-panel connection. Finished column and wall surfaces exposed to exterior. Column hoops and wall bars are welded together, and space between the three precast elements is filled with in situ concrete.*



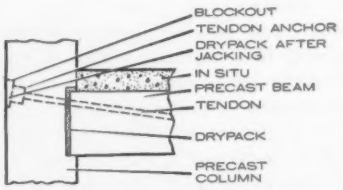

**11** *Precast column with horizontal sleeves allows a short bar to be welded to reinforcing bars in wall panels. Space between precast wall and columns is filled with grout after welding.*



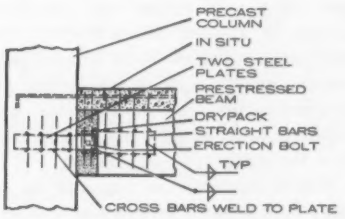

**12** *Precast roof beam to column connection. Interior column bars project upward into sleeves of beam, and space is filled with grout. Bent reinforcing bars placed over the beam are welded to exterior column bars. Space over the beam and column is filled with in situ concrete.*



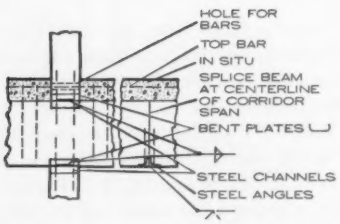

**13** *Precast floor-beam to column connection. Embedded-steel in column and beam is welded together after erection. Bar extending from column over beam is encased by in situ concrete, and may be designed to develop frame action.*



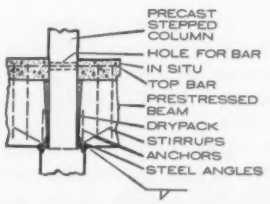

**14** *Precast beam connected to column by post-tensioning. Space at end of beam is filled with drypack prior to stressing the tendon.*



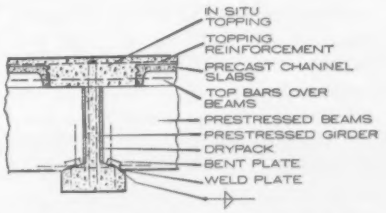

**15** *Precast beam connected to column by erection bolt prior to welding. This connection is advantageous for multistory construction as it speeds erection. Space around the welded connection is reinforced with suitable hoops and filled with drypack or cast concrete. Frame action may be developed by extending bar from column over beam and covering with in situ concrete.*



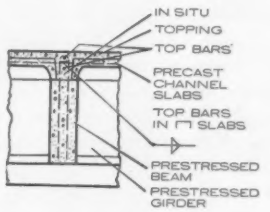

**16** *Precast beam connected to interior precast column. This detail is applicable to multistory construction where beams are continuous over the columns. Embedded steel in columns and beams is joined by welding. Negative reinforcing bars may be run through sleeve in column and covered with in situ concrete.*




**17** *Precast beam connected to interior precast column. Column is stepped to provide beam seat. Embedded steel in column and beam designed to confine concrete is joined by welding. Negative reinforcing bars may be run through sleeve in column and covered with in situ concrete.*




**18** *Precast girder, beam, and channel slab composite with in situ concrete. Bottom flange of inverted* **T**-*girder serves as seat for beams. Embedded steel in girder and beam joined by welding. Precast slab over the girder may be omitted, allowing a substantial in situ section to be cast as a composite top flange for girder and to provide space for placing negative reinforcing bars over beams and girders.*




**19** *Section through beam and slabs of scheme shown in* **18**. *Negative bars projected from ends of precast channel slabs are are welded together, and space over the beam is filled with in situ concrete.*

be placed accurately later. A row of dowels around the column is placed in the footing to provide anchorage for the collar. The base of the column is cast square and flat. After placing the column on the grout pad, the collar is cast around the column. This type of connection should be considered hinged at the base.

If a simple and inexpensive moment-resisting connection is required, another type of joint can be used 7. The footing is cast about an inch below finish elevation, with sleeves provided to receive the column bars. A steel shim is placed near the center of the column for temporary support. Immediately prior to setting the column, the sleeves are filled with thick grout paste and the column is then placed. After bracing the column, the space between it and the footing is filled with grout.

An adaptation of the conventional base for a steel column on a concrete footing is another possibility 8. The steel plate is welded to the column bars, and the anchor bolts in the footing are fastened to the plate after erection and grouting. Leveling nuts may also be used here for convenience in erection.

Where columns are required to develop high bending moments at the base, a detail that has been found convenient and efficient is shown 9. An angle-bar collar is welded to the column bars. Small leveling bolts may be provided for convenience in setting the column. The footing dowels are carefully located so as to line up close to the outside of the angle bar when the column is erected. After the column is positioned by the leveling bolts, the dowels are welded to the angle bar. Weld sizes may be determined from *Table I*, using the low-hydrogen welding procedure already described. To facilitate the final positioning of the footing dowels, it is recommended that a pipe sleeve be provided around the upper end of the dowel embedded in the footing. The sleeve allows lateral movement in the dowel, while setting the column, and a good fit to the angle bar, prior to welding. The annular space around the dowel in the sleeve is filled with grout after welding.

### *Joint Details: Wall to Column*

Where precast wall panels with textured finish are attached to precast columns, successful details are 10, 11. Column hoops project inward, and are welded to bars projecting from the ends of the wall panels 10. The space between the walls is filled with concrete. In alternate design, the column is provided with sleeves to receive short bars which overlap the horizontal bars projecting from the ends of the wall panels 11. After the bars are welded, the space is filled with grout or concrete.

### *Joint Details: Beam to Column*

Contemporary buildings framed in precast concrete often have an exposed structure, and a clean connection between beam and column is essential. This precludes the possibility of a projecting seat or corbel on the column. A simple but effective detail for a roof-beam-to-column connection is shown 12. The interior column bars are threaded into the beam, and the sleeves filled with grout. Bent bars are placed over the ends of the beam and welded to complete the joint. The roof slab may be cast-in-place or precast concrete.

In multistory buildings, floor beams may be supported in shallow notches in the exterior columns 13. The beam seat is a steel angle securely anchored into the column. A steel plate embedded in the end of the beam is welded to the angle bar after the beam is erected. A reinforcing bar projecting inward over the beam develops negative bending in the joint.

A variation of the floor-beam connection to the column, in which the beam is joined to the column by post-tensioning, is shown 14. This method has been particularly attractive for beam spans up to 70 or 80 ft. The tendons are threaded through the columns and beam after erection, and the narrow space at the end of the beam is drypack-grouted. When the drypack has developed sufficient strength, the assembly is post-tensioned.

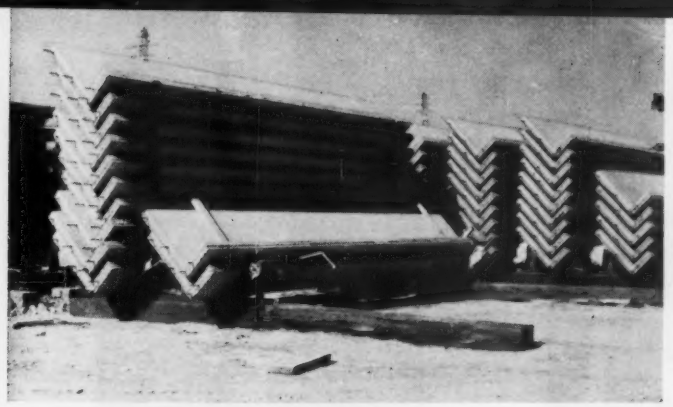
In the erection of multistory buildings, construction people have expressed a keen interest in a simple and rapid temporary bolted connection 15. Since it is only a temporary connection, a bolt need only be strong enough to carry the erection load until the final welded connection has been completed. One straight bar with a slotted hole projects from the end of the beam. It is placed between two parallel straight bars projecting from the column, each containing a round bolt hole. The slotted hole in the center bar allows a tolerance for horizontal positioning of the beam. After bolting, the erection crane and crew are free to pick up another member, and delays usually caused by the welding operation are avoided. After placing a light cage of reinforcing steel around the connection, the space between the beam and column is filled with concrete. A bar may be extended from the column over the beam to develop frame action through the joint.

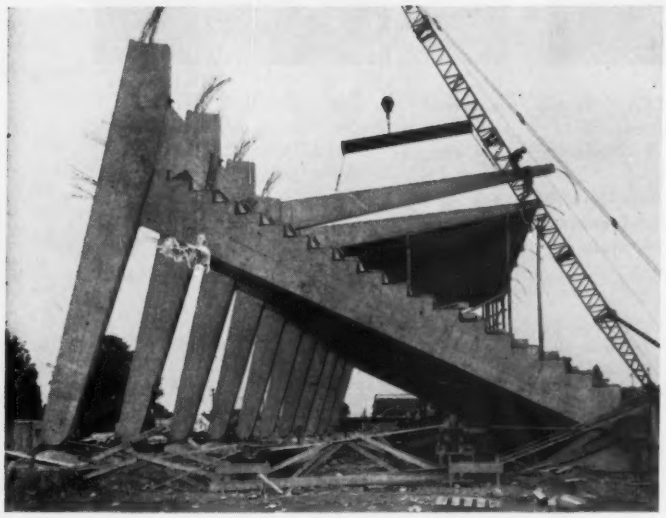
Where multistory construction includes interior columns, the designer has a choice of designing the beams to be continuous over the columns, or making the columns continuous. The case of a continuous beam, with the columns precast for each story, is shown 16. Steel embedded in the ends of the columns and in the upper and lower faces of the beam is joined by welding. Negative reinforcing steel placed over the beam can be run through a sleeve in the column, and later covered by concrete cast-in-place after erection and welding of the precast members. When the precast column is continuous, however, it may be notched or stepped to provide a seat for the beams 17. A very narrow seat or bearing can be safely used provided the concrete is adequately confined in steel. The steel is joined by welding, and if fireproofing is required, the steel may be recessed to allow for a plaster cover. Negative reinforcing steel may be threaded through sleeves in the column and covered with concrete cast-in-place after the precast members have been erected and welded.

### *Joint Details: Beam to Slab*

In framing large bays, the use of precast girders, beams, and slabs has been economical, particularly when the precast members are prestressed. Girders of inverted-T section may be employed, in which case the bottom flange serves as seat for the beams 18, 19. The connection between the beam and girder is accomplished by welding embedded-steel plates. The precast slabs carried by the beams run parallel to the girders. If a precast slab is omitted over the girder, a space is provided for a substantial cast-in-place top flange to the girder, where negative reinforcing steel may be placed for both the girders and the beams. It has been found advantageous to shore the beams and girders during construction, so that the dead-load as well as the live-load bending stresses are carried by the composite section. Also, a better distribution of the moments (positve and negative) can be developed.

Illustrated on the following pages are buildings—engineered by the author's firm—in which some of the foregoing composite details were used.





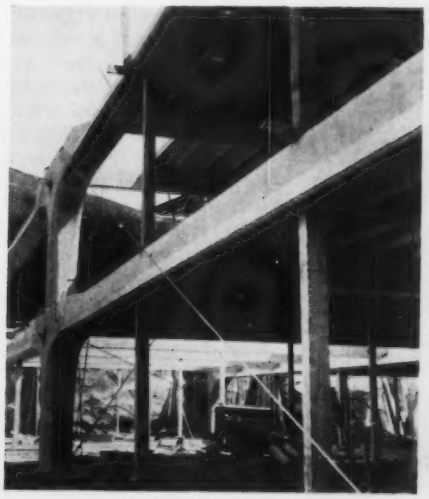
*SUMNER HIGH SCHOOL STADIUM • Sumner, Wash. • Lea, Pearson & Richards, Architects • Concrete Construction Company, Contractor.*

*This stadium is 180' long, and features a 45' cantilevered concrete roof. The basic frame consists of three precast parts—a sloping rear column, a serrated beam to carry the seats, and a cantilevered roof beam—assembled and joined together by post-tensioning. The seat units, cast L-shape (above), were reinforced by pretensioning with four ⅜", seven-wire strands and a curtain of welded-wire fabric that projected from all edges. Precast wall panels, 4" thick and 8' high, were fitted between the columns. When all columns and wall panels were erected and grouted, they were post-tensioned into a monolithic structure by tendons running continuous from end to end. The L-shaped seat members were placed on the serrated beams and the joints grouted.*

*The roof slabs are pretensioned channel sections 4' wide, 1½" thick, and 6" deep at the legs. They are supported on a flange cast on the lower edge of the roof beam. Sleeves in the roof beams were provided to insert short reinforcing bars, which were welded to steel projecting from the legs of the channel slabs. After welding, the space between roof slabs and beams was filled with cast-in-place concrete. Through the use of high-strength concrete and prestressing, the dimensions and weights of the members were reduced to the minimum practical value for a structure of this type.*

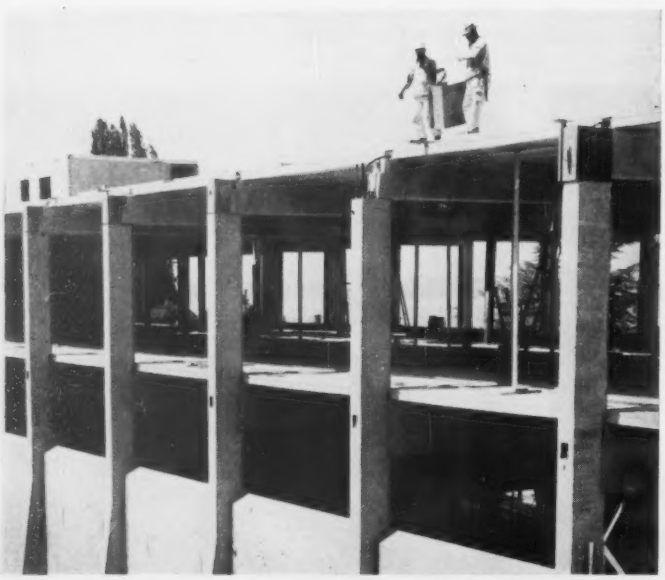
*STATE CAPITOL PARKING GARAGE • Olympia, Wash. • Gordon Brown, Architect • Halvorsen Construction Company, Contractor.*

*This three-level parking garage, 120' wide and 240' long, has only seven interior columns. The basic frame consists of two exterior precast double L-shaped columns, one interior double T-shaped column, and four inverted T-shaped prestressed girders. The flange of the girder serves as a seat to carry prestressed beams, which in turn carry precast channel floor slabs. The structural scheme utilizes details previously shown* **18, 19.** *The girders and beams were shored during erection to carry the dead load. Negative reinforcing steel was provided for all girder, beam, and slab connections and embedded in cast-in-place concrete. When the concrete reached its specified strength, the composite structure functioned continuous and monolithic for dead load as well as live load. Structure was built for $3.45/sq ft, including electrical and mechanical work.*



*ALA MOANA SHOPPING CENTER • Honolulu, Hawaii • John Graham & Company, Architect • Hawaiian Construction & Dredging Company, Contractor.*

*A two-level parking structure, over several hundred thousand sq ft of filled land, utilized precast and prestressed concrete composite designed with a cast-in-place deck slab. Prestressed-concrete piles driven through the fill material were designed for point bearing on the coral ledge. The piles were designed to stand as columns, the upper end of the column being cast-in-place in an adjustable steel form. Reinforcing steel for the upper section of the*

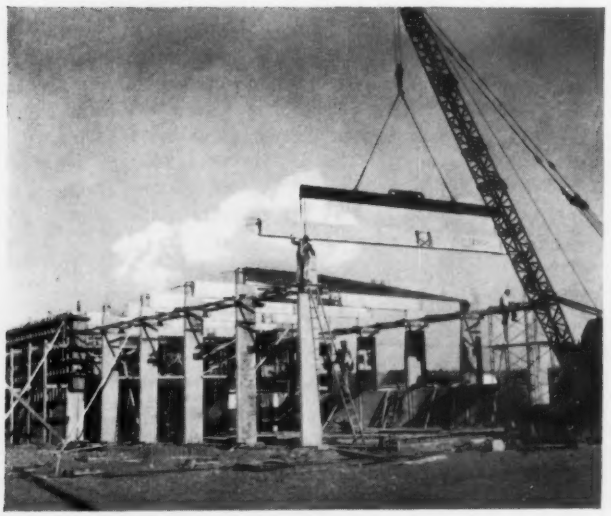


*AQUINAS ACADEMY • Tacoma, Wash. • Lea, Pearson & Richards, Architects • Earley Construction Company, Contractor.*

*This three-story high school was built in five months at a cost of $12.80/sq ft. It is a rigid-frame construction, which is subjected to a horizontal load on one side from a 25' earth embankment. The retaining-wall panels were precast with haunches and reinforced horizontally for continuity at the columns. The columns on this side were designed as counterforts and were fixed to deep footings by welding of reinforcement.*

*In the three-story portion of the building, the interior columns were stepped from 8" x 12" at the first story, to 8" x 10" at the second story, and 8" x 8" at the third. The beam to column connections were in accordance with detail previously shown* 17. *The exterior connections were according to details* 12, 13. *Detail of the roof-beam connection is seen* (below). *One end of the building contains a gymnasium in the first two stories. The third floor is spanned by a 70' prestressed beam connected to the columns by the scheme detailed earlier* 14.

*column was dropped into sleeves cast into the pile heads, and grouted to the pile in accordance with procedure previously shown* **1**. *Pile lengths for each location were predetermined by an ingenious method devised by Charles W. Watson, manager of the project. Watson developed a light, truck-mounted driver for a steel probing bar, and correlated hammer blows on the bar with pile resistance. This procedure resulted in almost perfect determination of pile lengths within the tolerance allowed. Photo* (left) *shows a row of piles with the adjustable steel forms in place, and photo* (right) *shows the prestressed girder positioned on one side of the column capital. When the girders were placed on both sides, and the projecting steel from the three members connected, the space was filled with concrete to complete the connection. Prestressed beams are carried on the lower flange of the girder, similar to details shown* **18, 19**. *Negative steel over the beam and girder supports was placed in the 4½" cast-in-place deck.*



*NATIONAL BANK OF WASHINGTON INDUSTRIAL BRANCH • Tacoma, Wash. • Robert B. Price, Architect • Concrete Engineering Company, Contractor.*

*This bank consists of a series of rigid-frame bents made from precast columns and a prestressed roof beam. Connection detail at the corners is in accordance with detail shown earlier* **12**. *Precast wall panels on the far side are connected to columns in accordance with detail* **11**; *column-to-footing connection is also shown* **7**.

*FLORIDA BUILDING • Federal Way, Wash. • Lyle Swedberg, Architect • Bona Fide Builders, Contractor.*

*This two-story commercial building features 90′ prestressed-concrete beams, with the second floor cantilevered 10′ at one end. Photo shows a second-floor beam being erected on a precast column whose bars are threaded into sleeves in the beam. Precast channel slabs span 20′ between the beams, and the negative bars projecting from their ends are welded, prior to filling in the space over the beams with concrete.*

*WOODROW WILSON HIGH SCHOOL • Tacoma, Wash. • Lea, Pearson & Richards, Architects • Nelson Construction Company, Contractor.*

*Roof of this swimming pool spans 105′. The prestressed-concrete* I*-beams are 48″ deep, with 18″ flanges and a 4″ web. The beams are carried on precast columns connected by detail previously shown* **12**. *The precast wall panels are joined to the columns in accordance with detail also illustrated* **11**.

# Acoustics and Reverberation

BY DAVID P. COSTA

*It is often desirable to know the reverberation time of a room, in advance of construction, so that desirable acoustical qualities can be provided. A Mechanical Engineer associated with the Naval Material Laboratory, Brooklyn, New York, discusses effects of reverberation time and by means of a nomogram shows how this interval can be speedily determined.*

Everyone has experienced disagreeable effects due to faulty acoustical design: excessive reverberation (or echoing) in a large church or gymnasium, for example, or insufficient sound intensity in the rear seats of a large auditorium. The problem of reverberation, or lack of it, involves the acoustical behavior of an enclosure as it directly affects the audibility and intelligibility of sounds produced in the enclosure. Fortunately, such defects, which in extreme cases can completely destroy the usefulness of a room, can almost invariably be eliminated by various corrective expedients. It is important, therefore, that a designer of such rooms be able to predict their acoustical performance and arrange for the desired results in advance of construction.

An important factor in the acoustical quality of any enclosure is its reverberation time. This is defined as the length of time required for the sound intensity to decay to one-millionth of its initial value.

## *Effects of Reverberation Time*

If the percentage of sound energy that is absorbed by the boundaries of a room at each sound reflection is large enough, the sound in the room will decay rapidly, and succeeding sounds (or syllables, in the case of speech) will experience no interference. Thus, an over-reverberant condition can be corrected by application of sound-absorbing materials to the boundaries.

In view of this, it might be expected that the best intelligibility would be obtained with the shortest reverberation time. It should be remembered, however, that the greater the sound absorption, the smaller the steady-state sound intensity in the room. This indicates that in some cases, the reverberant reinforcement of sounds in a room can have a beneficial effect on intelligibility. It has been determined[1] that there is an optimum point where intelligibility of speech (as well as the esthetic quality of music) reaches a maximum as the reverberation time is decreased from large values; but if reverberation time is decreased below this point, intelligibility decreases because of lowered sound intensity in the room. Optimum reverberation times for rooms of various volumes and uses[1, 2], as well as sound-absorbing characteristics of various materials[3], can be found in the appropriate references.

## *Determining Reverberation Time*

The reverberation time of a room can be determined with reasonable accuracy by use of the standard equation[4]

$$T = \frac{0.049\,V}{-S \log_e (1-\alpha)} \text{ ; where}$$

T = reverberation time, sec;
V = volume of enclosure, cu ft;
S = total surface area of boundaries, sq ft;
$\alpha$ = sound energy absorption coefficient.

According to the initial assumptions made in its derivation, the standard equation is strictly applicable only to enclosures in which all boundaries have the same sound-absorption coefficient. Because this condition is seldom encountered in practice, it is necessary to use the "appropriately averaged" sound-absorption coefficient. There are various means of determining this. A convenient method of computing this average is given by the Arithmetic Reverberation Equation[5]

$$T = \frac{0.049\,V}{-S \log_e \left[1 - \frac{\Sigma\,(S_1\,\alpha_1)}{S}\right]} \text{ ; where}$$

$S_1$ = a particular area of surface whose random incidence sound-absorption coefficient is $\alpha_1$, sq ft;
$\alpha_1$ = random incidence sound-absorption coefficient of a particular surface of area $S_1$.

Here the $(\alpha_1)$'s are the absorption coefficients of the different parts of the room, and the $(S_1)$'s are the corresponding areas, so that, in taking the average, each absorption coefficient is weighted by the area possessing that value. That is,

$$\alpha = \frac{S_{11}\,\alpha_{11} + S_{12}\,\alpha_{12} + S_{13}\,\alpha_{13} \ldots S_{1n}\,\alpha_{1n}}{S_1 + S_2 + S_3 \ldots S_n}$$

By using this average sound energy absorption coefficient, the reverberation time of most enclosures can be calculated with very acceptable accuracy.

## *Use of Nomogram*

A nomogram (*acrosspage*) provides a means for determining the reverberation time of a room if its volume V, total surface area S, and average sound energy absorption coefficient $\alpha$ are known.

For example, find the reverberation time of a room at 512 cps (conventional standard frequency), whose volume is 120,000 cu ft. The acoustical-tile ceiling has an area of 4000 sq ft and an absorption coefficient of .66, while the cork-tile floor of the same area has a value of .07. The wall area of 8400 sq ft (including wooden door, window glass, and plaster) has an average absorption coefficient of .03.

## *Solution*

1 Sum up the areas of the ceiling, floor, and walls, to find total surface area S.

$$S = 4000 + 4000 + 8400 = 16{,}400 \text{ sq ft}$$

2 Employ equation above to find the average sound energy absorption coefficient ($\alpha$).

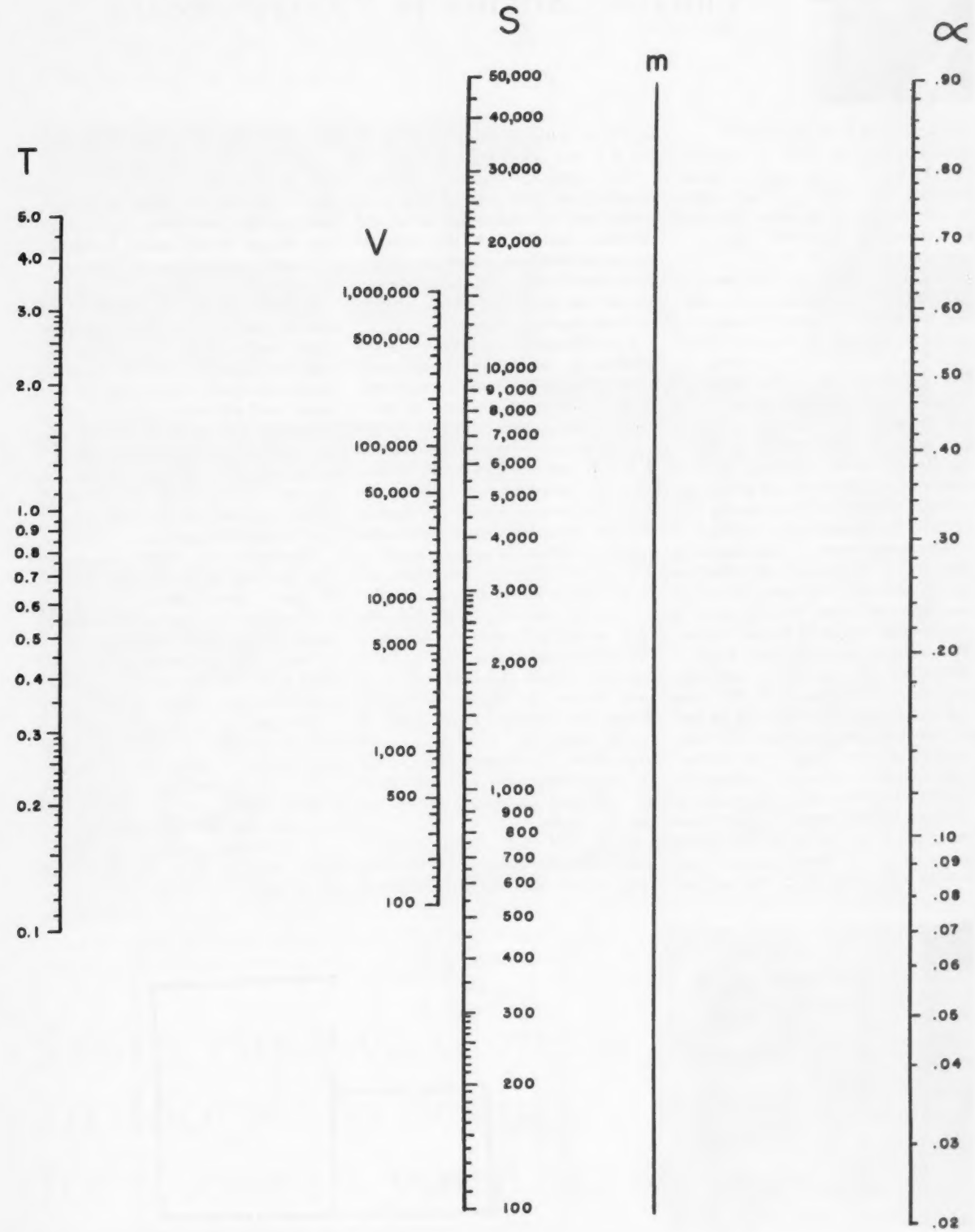
$$\alpha = \frac{(4000 \times .66) + (4000 \times .07) + (8400 \times .03)}{16{,}400} = .193$$

3 Connect total surface area S with average absorption coefficient $\alpha$, so as to intersect m.

4 Connect m with room volume V, to find that reverberation time equals 1.66 sec.

[1] Leo L. Beranek, *Acoustics*. McGraw-Hill, New York, N. Y., 1954.
[2] F. R. Watson, *Acoustics of Buildings, 3rd Edition*. John Wiley & Sons, New York, N. Y.
[3] *Bulletin XIII, Acoustical Materials Association*, New York, N. Y., 1951.
[4] Robert W. Young, *J. Acoust. Soc. Amer.*, Vol. 31, No. 7, 912-921, July, 1959
[5] Robert W. Young, *J. Acoust. Soc. Amer.*, Vol. 31, No. 12, 1681, December, 1959.

*NOMOGRAM TO DETERMINE*
*REVERBERATION TIME OF A ROOM*



# Vibratory Studies in "Reverbatorium"

BY WILLIAM J. McGUINNESS

*New structure—designed to accommodate acoustical studies made in connection with basic components and systems of environmental control—is discussed by a practicing mechanical engineer.*

Some central-station air-conditioning installations in large buildings are so quiet that it has been necessary to introduce a certain amount of "acoustical perfume," or covering noise, to relieve the silence in which even routine sounds become distracting. At the other end of the scale, some room air conditioners are so loud that hotel guests turn them off during sleeping hours, choosing silence to noisy cooling. Central-station heat pumps in large industrial buildings usually have batteries of compressors operating in various combinations all year-round. In the case of one recent and otherwise highly successful installation, the persistent high-level sound was the cause of considerable tension in nearby workers. The company president, very proud of the performance, appearance, and economy of his heat pump, said: "We want the equipment to be visible, but we may enclose it in glass to reduce the sound level in adjacent spaces." An architect planning an extensive and rambling new residence had this to say to his engineer: "Because the lack of three-phase power makes a central plant impractical, air-to-air units of the through-the-wall type will be used. This client has had bad experience with noisy air-cooled units and it is your job to find quiet ones."

The architect, engineer, company president, and hotel guest all have *some* control over air-conditioning sound and vibration, but all lack the elaborate equipment necessary to study basic components and systems. Turning off the unit (in the case of the hotel guest) is hardly a satisfactory type of control.

A contribution to the solution of these problems is the new "Reverbatorium" in operation at the York, Pennsylvania, plant of the York Division of Borg-Warner Corporation *(plan)*. The interior working areas, reverberation chambers A and B, are two high-density poured-concrete chambers, cast together and supported on steel springs for complete isolation from the larger surrounding concrete building. To measure sounds of different intensities and frequencies, the rooms differ in size and have no parallel surfaces in walls or ceilings. The complete separation between the test chambers and the surrounding, massive building which consists of poured concrete on steel frames, is illustrated *(photo)*. Within the structure is a 30,000 lb seismic mass for extremely accurate measurement of vibration. Office, analysis room, sound lock, and instruments are additional components of the new research center.

Quite proud of its present record in sound and vibration control, the company expects that the laboratory will produce data to be used for the greater improvement of its products. In addition, it is its hope that much will be done there to further the efforts of associations, societies, and other organizations now working toward greater knowledge and control of sound and vibration in the industry.

Warren E. Blazier, Jr., Director of the new laboratory—whose background includes similar research for Boeing Aircraft, the University of Wichita, and the Coleman Company—expects that the laboratory staff will make numerous studies in balance and strain, as well as motion and sound. Improvement and longer life of equipment are looked for as concomitant benefits along with those of better acoustical and vibratory control. Specific objectives are:

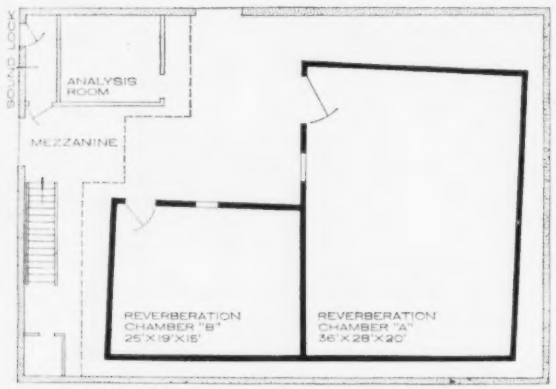
1 Elimination or control of primary sound through selection, design, and application of components.

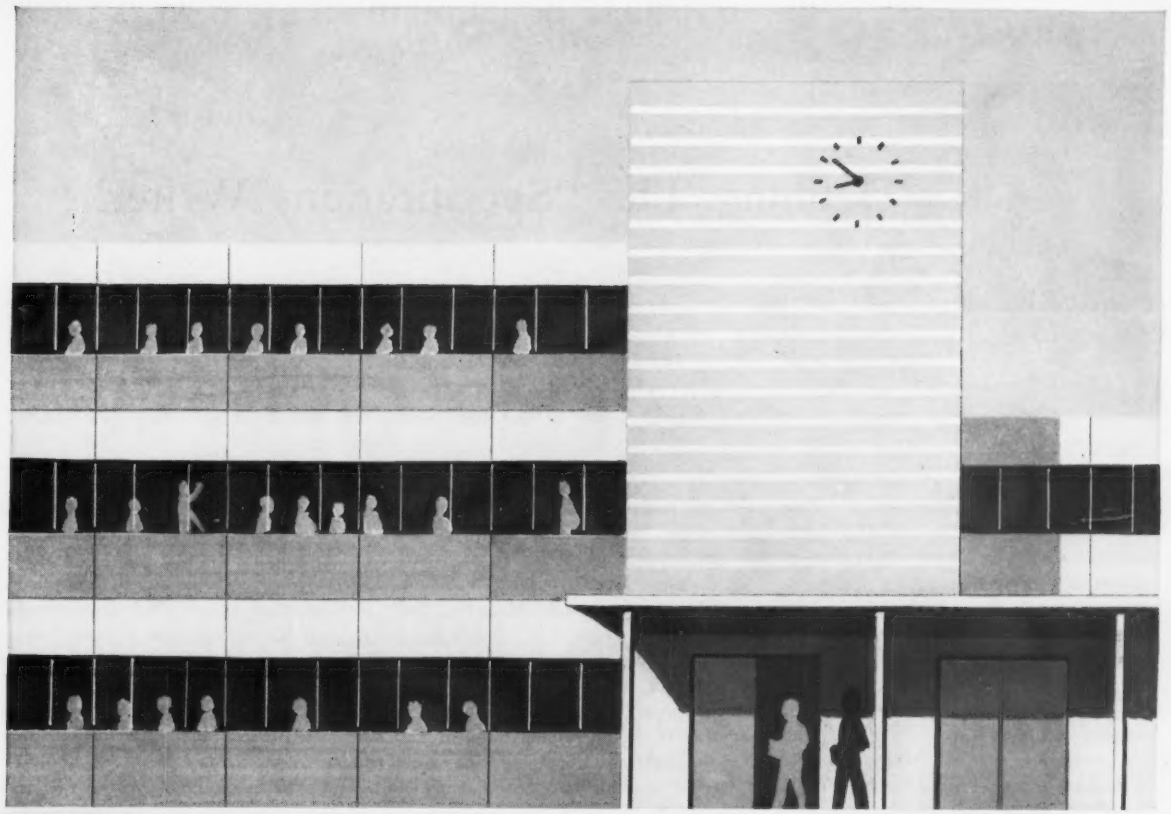
2 Elimination or reduction of secondary sound resulting from vibration.

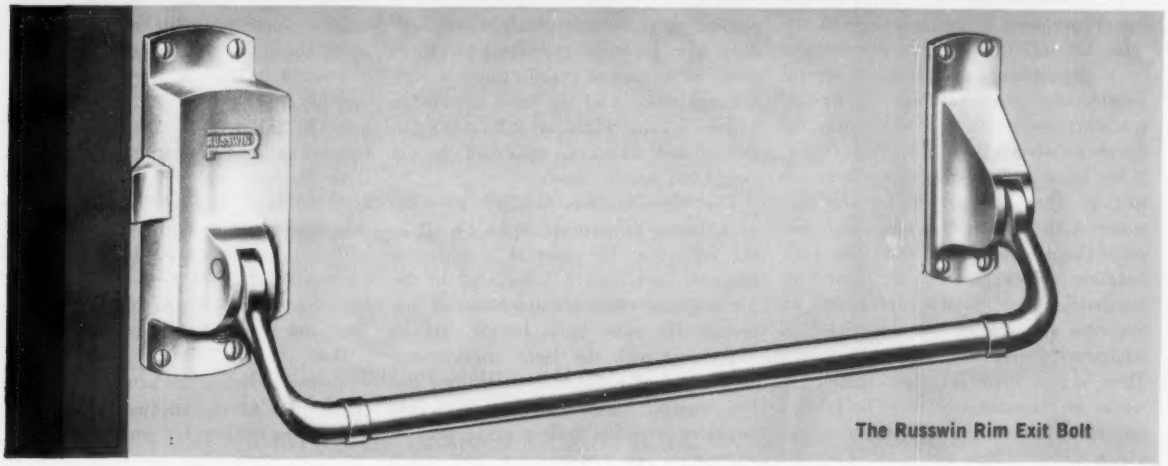
3 Containing the remaining sound as much as possible by use of the correct type of enclosure, baffles, and insulation.

4 Defining the factors that affect the level of customer acceptance of sound and vibration in various environments.

The architect and engineer will have a direct "assist" from the manufacturer in dealing with the environmental problems of the hotel manager, the country client, and the busy but quiet-loving industrialist.








The Russwin Rim Exit Bolt

Simple design in and outside! Only three moving parts in this precision-made Russwin exit bolt. Engineered for smooth, instant action. A touch — and you go! Dependable, heavy-duty construction throughout. A fine choice for exit doors. For further information write to Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.

# from russwin...new concepts in doorware design...new beauty for doors in your buildings

RUSSWIN

# Defining The "Specifications Writer"

BY HAROLD J. ROSEN

*An architectural office's fount of information—with respect to construction, materials, and equipment—is defined in this column by the Chief Specifications Writer of Kelly & Gruzen, architects-engineers.*

In the small office, specifications are written by the architect who is doing his own work, or by the same individual who is making the working drawings. In the larger offices, the specifications are written or prepared by an expert who devotes his full time to this function, or by a department consisting of several people who are proficient in writing specifications which will accompany the drawings when sent out for bids.

We know for whom specifications are written. They are written for the estimator in the contractor's office who prepares the estimate based upon the specifications. They are written for the purchasing agent in the contractor's office who will procure the materials and equipment described in the specifications. They are written for the clerk-of-the-works or inspector who must be given a document which will aid him in supervising and directing the work. They are written for the owner who would like to know what he is buying and what he is entitled to receive. They are written for the subcontractors so that each can readily discern the scope of his contract. They are written for the manufacturers of building materials and equipment, so that the grade and type are clearly defined with respect to the many variations they may manufacture.

There are many texts on the subject of how specifications should be written, i.e., the organization of the material, the specifications language, the brevity of specifications clauses, the avoidance of duplication and repetition, the pitfalls, the pros and cons of "scope" and "or-equal," and the various sources of information such as Federal Specifications, A.S.T.M., Sweet's Catalog, and Manufacturers' literature.

The key problem is: by whom are the specifications written? In many instances fate, accident, or circumstance has intervened to place the responsibility of writing specifications upon one who is not otherwise qualified to write them. The appellation "Specifications Writer" is applied to those individuals whose sole duty it is to write specifications. However, the writing of specifications is only the end product of the total knowledge and experience which an individual possesses, and which is embodied in the completed specifications.

The "Specifications Writer," for want of a better description, must be all of the following: He must be a materials engineer and have a knowledge of the physical and chemical properties of materials. He must be a lawyer and be conversant with the legal requirements inherent in the General Conditions and the contract forms. He must be a field engineer who has had a great deal of experience in construction and trade practices. He must be a grammarian with the ability to use clear, correct, and concise English. He must be an estimator, so that he can evaluate the costs of materials and construction he proposes to specify, and make the correct selection. Lastly, he must be an architect or an engineer and be familiar with working drawings and details.

The duties of the individual assigned to write specifications in an architect's office are varied. He is called upon to check details to determine whether the detail will work and whether it can be built. He is asked to recommend building materials for certain applications or building locations. He is assigned the problem of interpreting plans and specifications whenever a question arises as to their meaning, or when discrepancies appear. He is consulted whenever samples are submitted, to determine whether they meet specifications requirements. He is a fount of information with respect to construction, materials, and equipment.

He must keep abreast of the advances in building technology by maintaining lines of communication with authorities in all the different lines of work, so as to become in effect a source of information on all phases of building construction. To this end he should become a member of the Construction Specifications Institute and maintain the necessary contacts to obtain authoritative information. Without these contacts he will find himself stranded and alone, as the scope of modern specifications—in the larger offices—is beyond the experience and knowledge of any one person.

Does the title "Specifications Writer" connote and define the heterogeneous endowments which an individual must possess to qualify for such a position? Building science has advanced considerably and the talents that the specifications writer of yore possessed are not sufficient to qualify him as such in today's technology. Should the title be "Specifications Engineer" or some other similar title?

By the same token, what sepcification courses are being taught in our architectural and engineering schools today to prepare the student for positions in this field? Does the curriculum embrace all of the major elements that a writer of specifications is expected to encounter in the performance of his duties as enumerated herein?

**You pay no more for unequalled SLOAN quality...**

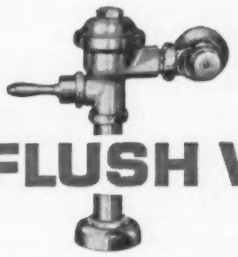
# Superior Design

## eliminates need for regulation

Many flush valve "firsts" have come from Sloan's engineering research, one of the earliest of which is the "no regulation" of the ROYAL Flush Valve. Here is the flush valve so perfectly engineered in its functional design that, once actuated, it performs faultlessly all by itself—even if the water pressure fluctuates.

Nothing to regulate means nothing that can be tampered with; nothing to get out of order—it means service you can take for granted. And this is but one of the many features responsible for the continued popularity of the ROYAL.

"No regulation" is a standard feature of the ROYAL—another bonus of quality you expect from Sloan. And since you can have Sloan quality at no extra cost—why not make sure you get it.



**SLOAN FLUSH VALVES**

SLOAN VALVE COMPANY • 4300 WEST LAKE STREET • CHICAGO 24, ILLINOIS

# Construction Contracts — Part 3

BY JUDGE BERNARD TOMSON & NORMAN COPLAN

*This is the third of a four-part article criticizing the new AIA construction-contract forms.*

The requirement of the "General Conditions" that the contractor furnish a progress schedule is inadequate to insure a timely performance on the contractor's part unless each subcontractor has been not only advised of such a schedule, but has initially approved and accepted it in connection with his respective part of the work.

A suggested clause to be included in the "General Conditions" to provide for co-ordination between contractor and subcontractor is as follows:

"The Contractor, prior to commencing the work, shall establish a schedule of progress for the work as a whole, and for the various parts, in such form as the Architect shall direct; and the Contractor shall comply with and adhere to such schedule. The parts of the work performed by each Subcontractor, and the time schedule applicable to each part, shall be acknowledged and accepted by each such Subcontractor before submission of the schedule. The Contractor shall also furnish a materials delivery schedule and shall inform the Architect immediately of any delay or deviation from such schedule. The Contractor shall keep his Subcontractors and other Contractors informed monthly as to actual progress made. Subcontractors shall be notified in writing not less than six weeks in advance of the commencement of their work and shall confirm, in writing to the Contractor, the expected schedule. No adjustment or extension of the schedule or the time in which the contract is to be performed will be made or granted, except as provided in Article 18, below."

The architect's status and powers as set forth in the 1958 edition of the "General Conditions" differs only in minor respects from the earlier edition. No attempt has been made to strengthen or broaden his position as an arbiter of disputes between owner and contractor. The inconsistencies and ambiguities continue in the latest edition, as will be indicated by a summary review of those provisions which require decisions or determinations on the part of the architect.

Article 15 of the "General Conditions" entitled "Changes in the Work" provides that if there is no agreement between the contractor and the owner as to compensation in connection with extra work "the Architect shall certify to the amount, including reasonable allowance for overhead and profit due to the Contractor." This paragraph does not expressly state, nor is it otherwise expressly stated in the "General Conditions," whether this determination on the part of the architect is final and conclusive, or whether it is subject to arbitration by a third party.

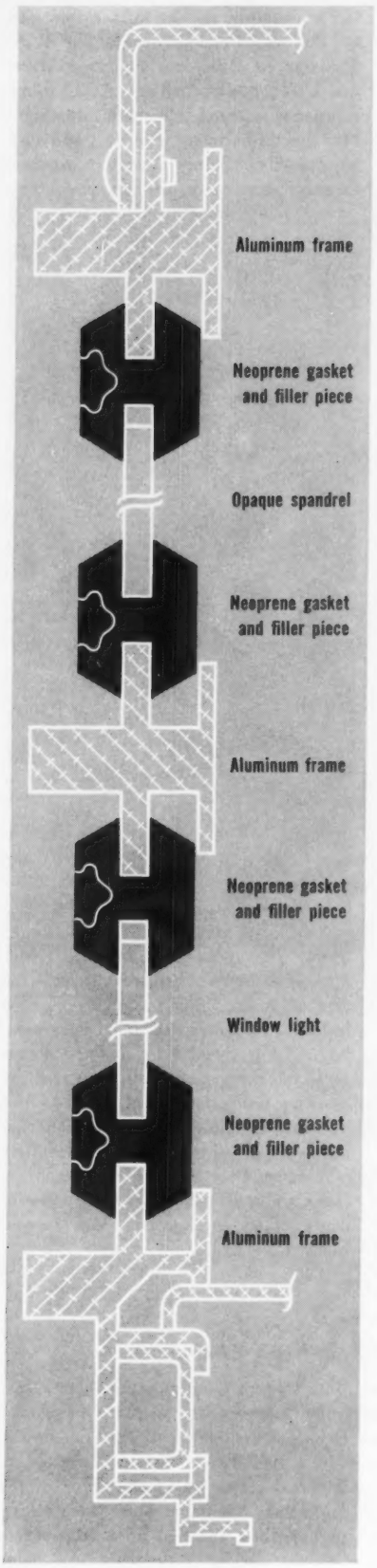
Article 18 of the "General Conditions" entitled "Delays and Extension of Time" provides that if the contractor is delayed in the progress of the work "by any cause which the Architect shall decide to justify the delay, then the time of completion shall be extended for such reasonable time as the Architect may decide. Again, this paragraph does not expressly state whether or not this determination on the part of the architect is final and conclusive.

Article 19 of the "General Conditions" entitled "Correction of Work Before Final Payment" provides that "The Contractor shall promptly remove from the premises all work condemned by the Architect as failing to conform to the contract." This article is also silent on the finality of the architect's determination. However, Article 20 entitled "Correction of Work After Final Payment" requires the contractor to remedy any defects due to faulty materials or workmanship which shall appear within a period of one year from the date of final payment, and provides that all questions arising under this article "shall be decided by the Architect *subject to arbitration.*"

Article 31 of the "General Conditions" entitled "Damages" provides that either party to the construction contract, if he sustains damages because of any wrongful act of the other party, shall make a claim in writing, and such claim "shall be adjusted by agreement or arbitration." The relationship of this article to those other articles of the "General Conditions" which provide either for the final or initial determination by the architect of matters which involve performance under the contract, is not made clear.

Article 38 entitled "Architect's Status" provides that "As the Architect is, *in the first instance,* the interpreter of the conditions of the contract and the judge of its performance, he shall side neither with the owner nor with the Contractor." Article 39 entitled "Architect's Decisions" provides that "in matters relating to artistic effect" the architect's decisions "shall be final" and that except as *"otherwise expressly provided in the contract documents,* all the Architect's decisions are subject to arbitration." Article 40 entitled "Arbitration" provides that all disputes, claims or questions "subject to arbitration under this contract, shall be submitted to arbitration." These provisions would seem to indicate that all the architect's determinations, except those relating to "artistic effect" (which is undefined, and thus subject to conflicting views) are subject to arbitration. Uncertainty, however, is cast upon this conclusion by the exception above quoted, and by the failure of the "General Conditions" to specify expressly those disputes, claims, or questions which are subject to arbitration.

In next month's column, we will suggest revisions to the "General Conditions" which would clarify the architect's status under the construction contract.




Elevation Detail

Architects: Pedersen & Tilney (New York City)
Gasket Supplier: Inland Manufacturing Division, General Motors Corp.

Aluminum wall framing fabricator and erector: Flour City Ornamental Iron Company, Minneapolis, Minn.

Curtain walls of attractive IBM offices in Baltimore are sealed with "Inlock" neoprene structural gaskets.

*In New IBM Building...*

# NEOPRENE GASKETS SPEED GLAZING, GIVE TWO-WAY ECONOMY

In designing IBM's modern new office building in Baltimore, Md., architects specified preformed neoprene gaskets for the glazing system. Reasons: neoprene gaskets not only afford long service life, with virtually no maintenance, but also permit greater on-site economies than conventional glazing materials.

**INSTALLATION IS FAST.** Preformed neoprene gaskets do not require cutting and joining on the job, fit quickly into aluminum frame. In addition, these gaskets eliminate chances for error or careless workmanship. The filler strip firmly locks the glass in place, insures a clean, neat glazing job...no need for messy caulking.

**SERVICE LIFE IS LONG** because neoprene maintains a lasting seal under exposure to weather, ozone and airborne chemicals. It doesn't soften in hot weather or stiffen with cold. Neoprene accommodates horizontal and vertical expansion of glass or panels, as well as wind deflection and dimensional variations of glass or panels, maintains a weathertight seal. It has excellent resistance to compression set.

Neoprene has proven its durability and dependability in outdoor service for over 25 years. For more information, send for NEOPRENE GASKETS FOR CURTAIN WALLS. Write: E. I. du Pont de Nemours & Co. (Inc.), Elastomer Chemicals Department PA-9, Wilmington 98, Delaware.

**NEOPRENE**
SYNTHETIC RUBBER

DU PONT
REG. U. S. PAT. OFF.

**BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY***

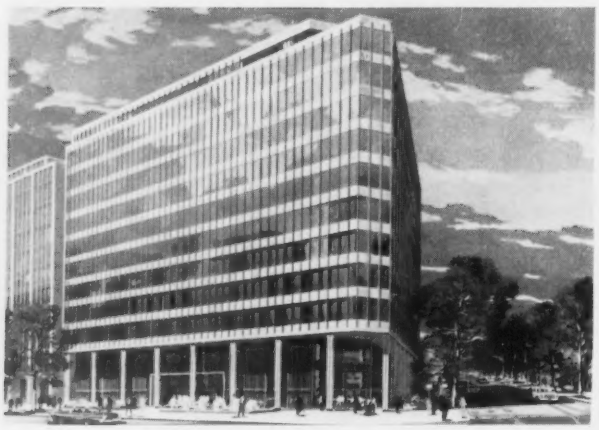
### *Experiences Shared*

Dear Editor: Mr. Neutra's kind remarks about me in his Letter to the Editor on page 182 of your JULY 1960 issue have been called to my attention.

To clarify his statement, I have not engaged in new work with him since November 1958, and shall not do so in the future. We are, however, completing work undertaken together before that date.

This is an occasion for me to express my own appreciation of ten years of experiences shared with him.

ROBERT E. ALEXANDER
Los Angeles, Calif.



### *Glass Walls for Washington?*

Dear Editor: Should an architect's freedom of design ever be curbed? Has he no rights as an individual? Certainly he has rights—but he also has obligations. Not only has he obligations toward his client but if he is a man of integrity and character he also has obligations toward the community in which the buildings he designs are to be built.

In the case of Architect Koubek vs. the marble wall of resistance of the Washington Fine Arts Commission (JUNE 1960 P/A NEWS REPORT), a few pertinent questions might be asked. The Commission objected to "all that glass" in the design of an office building to be built near the White House. Were they not right? Could not this building be repeated in Minneapolis or Kansas City? Would it not be better to relate the design to the city in which it is to be located, rather than to a glass-faced building that happens to be adjacent to it? Must all office buildings of today be faced with ribbons of glass and shining metal? Is this not just as unimaginative as the neo-classic, tile-roofed government buildings of the 1920's?

For example, not one of the solutions for the design competition for the U. S. Embassy on Grosvenor Square in London were of glass and metal, yet every solution presented was both contemporary and in harmony with its traditional surroundings. Surely Architect Koubek is versatile enough to find a contemporary solution that is in keeping with the character of our nation's capitol.

J. WELLS HASTINGS
Oakland, Calif.

### *Dignity for the Pedestrian*

Dear Editor: In perusing the MAY 1960 P/A I underwent a shock of recognition when my eyes fell on Mr. M. Katzman's proposed overhead pedestrian mall since I had also thought of this idea some time back. In fact, I felt so strongly about it then that I immediately consigned the idea to a notebook.

However, I feel gratified rather than dismayed at the fact that someone else announced this idea for it confirms my own views on the means that should be used, or at least tried, to ease the complex congestion problem in New York. By extension, of course, the same approach would seem worthy of trial in other cities where a similar problem exists.

Objectively judged, the mall idea has the three-fold advantage that it restores the dignity of the pedestrian by allowing him to move freely and safely in the city's outdoors, it successfully combines the merit of satisfying the esthetic and psychological needs of the urban dweller while business activity is fostered rather than hampered, and, finally, it frees the man on wheels from the vagaries of his pedestrian counterpart. Further, vehicular traffic is speeded up and the delays at street corners normally incurred by crossing pedestrians is eliminated. And of course last but not least, the menacing problem of jaywalking is definitely eliminated. Over and above these advantages, the mall concept is susceptible of many other developments and innovations.

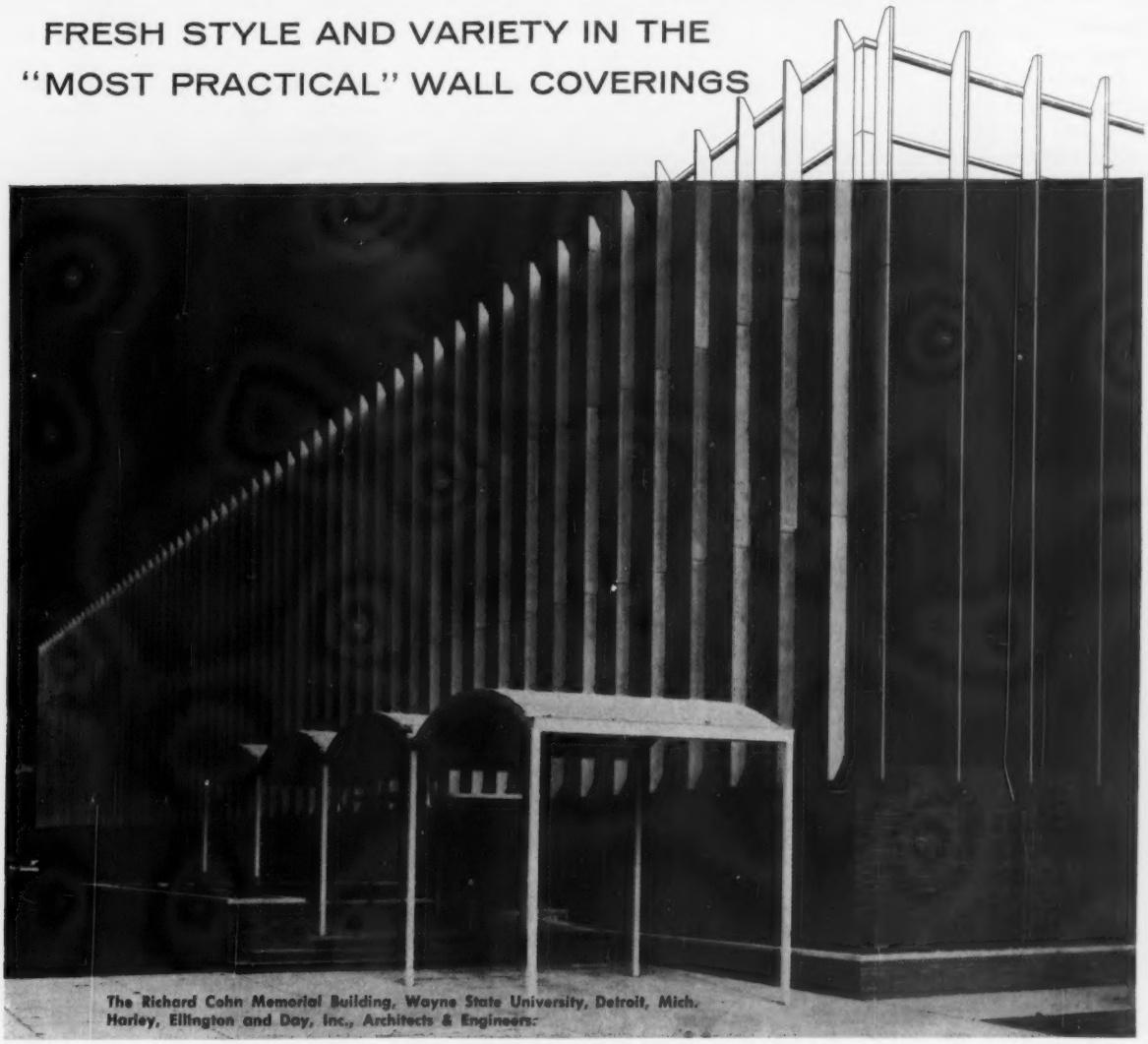
HENRY VAUGLE
Woodside, N. Y.

### *Land-Space and Landscape Architects*

Dear Editor: Congratulations on the excellent, perceptive article: "Design of Exterior Spaces" by Jan C. Rowan (JULY 1960 P/A). The article gives an unbiased statement of the scope of the profession of landscape architecture, perhaps best summed up in the phrase "an art dealing with space and being concerned with the relationship between

# FOR TODAY'S NEW ARCHITECTURE.

## FRESH STYLE AND VARIETY IN THE "MOST PRACTICAL" WALL COVERINGS



The Richard Cohn Memorial Building, Wayne State University, Detroit, Mich.
Harley, Ellington and Day, Inc., Architects & Engineers.

Walk through this new Wayne University building . . . or through any number of other new structures . . . and you'll discover one of the most exciting of all developments in interior decor: the fresh, modern wall beauty and the variety of pleasing effects made possible today by the Frederic Blank group of wall coverings:

### VINYL'S *First Three*

**Standard-Duty Fabron®**
decorative, general-purpose vinyl wall covering

**Heavy-Duty Permon®**
decorative, high-strength floor-to-ceiling vinyl wall covering

**Super-Duty Permon®**
decorative, super-tough vinyl wall covering for wainscoting

*Today's largest selection in colors, prints, textures . . . the most practical choice for long-range economy, crack concealment, year after year freedom from painting, repairing, redecorating.* Virgin Vinyl Only — Highest Abrasion Resistance — Highest Fire Protection Rating — Locked-In, Fade-Free Colors — Plastifused Multi-Ply* Construction — Special Texturing for easy, fast cleaning. **Valuable Information! Write for new specification and descriptive brochure.**

*A Toscony Process

## FREDERIC BLANK & COMPANY, INC.

*Est. 1913 . . . Oldest and Largest in permanent-type wall coverings*

295 FIFTH AVENUE
NEW YORK 16, N.Y

elements erected on the ground and the ground itself . . . ."

Certainly the many land-space problems confronting today's metropolitan areas need the rather specialized talents of the landscape architect. Much credit is due P/A and the author for the recognition of some of these problems and for pointing the way to possible solutions.

The companion article by Richard P. Dober of Sasaki, Walker & Associates is also valuable for its analysis and definition of operations in a landscape architectural office.

Best wishes to your outstanding magazine.

LYNN M. F. HARRISS
Field Secretary
American Society of
Landscape Architects
Washington, D.C.

Dear Editor: Congratulations on your good story on the Sasaki-Walker office. This, with your previous colloquy between Rose, Halprin, and Linn, makes you a real friend to our profession. This is a big step toward long-needed mutual understanding.

GARRETT ECKBO
South Pasadena, Calif.

## *Clarifying Stains*

Dear Editor: We read the article, "Exterior Wood Stains" by John N. Anderson in your May issue with great interest and found that on the whole it covers the subject very well. There are, however, a couple of points with which we as pioneers in stain manufacture feel we should take issue.

The article says that it is no longer necessary for a manufacturer to use creosote to prevent decay, and it states that creosote has a tendency to bleed. This is correct in most cases, but it is not true of our creosote stains. In these stains, the creosote is carefully refined to remove the heavy components that cause the bleeding. After a couple of years of weathering, a white paint or any other paint or stain can be applied over our creosote stains without fear of bleeding.

The effectiveness of phenyl mercury oleate as a wood-preservative is open to question, although it is known to be an effective mildewcide. Unless mildew is a serious problem, it is generally considered advisable to avoid the use of mercury compounds, which are quite toxic and are actually outlawed in certain states.

We feel that the author would have done well to devote more space to the use of transparent stains, which our experience shows are preferred by most architects and discriminating home owners. We make both types, but we find that there is a general preference for the transparent type that colors wood without hiding the grain. We also question whether it is good practice to recommend one coat, even of a heavy-bodied stain.

With these minor exceptions, we feel that Mr. Anderson has written a good article and we especially commend him for the excellent instructions in the paragraph headed, "Application Recommendations."

SAMUEL CABOT, Jr.
Samuel Cabot Incorporated
Boston, Mass.

## *Minority Report*

*Last month the Views column was devoted to a sampling of the many favorable comments we received on the new format introduced in May. A small minority of the responses expressed disapproval; two criticisms of P/A's new design are presented below.*

Dear Editor: I have the distinct impression that the quality of reproduction, particularly in the halftones (MAY 1960 P/A) has somehow been lowered. I have always personally felt that a photograph, or a reproduction, in which an attempt is being made to show the real spirit, the substance, of a particular solution, cannot be so small that textures or materials cannot be read in them. Having enough photographs, taken from various angles, in an article to give a good idea of a building and its surroundings is always desirable. However, pages such as 148, 154, 164, 165 and 166 look more like snapshots in a year book than they do like pages from an article that is attempting to project the reader into the actual space and site of a given solution.

Magazines like P/A have always been valuable because they can be so selective as to the excellence of a particular project to be reported and, in doing so, can also possibly inspire others to be more selective, more sensitive, more aware of what it takes in terms of actual materials, textures, relationships of materials, as well as of the long view of a building that can only show over-all shapes and masses.

I cannot say that you have been very "selective" in your SELECTED DETAILS, pp. 194, 195. The mere availability of a detail to publish is one thing. The actual selection of details that may contribute knowledge of superior detailing is another. Forced gimmicks and warmed-over details contribute so little. A good many of the selected details of past P/A's have, by contrast, contributed a great deal to our knowledge.

Reporting, such as your Stainless Steel article, is to be welcomed.

I have always felt that P/A has had the most realistic and sensitive coverage of architectural projects of the most interest to architects. I hope that you are not subordinating your coverage for your advertising, as other magazines seem to be doing.

RAYMOND J. WISNIEWSKI
Windsor, Connecticut

Dear Editor: To begin, I do not like the type face, color of the pages, or presentation of the News Report. In previous years, I always looked forward to browsing through this section to see what new projects were being proposed. It seems to me that you used to grant more space to the renderings of the projects.

My main criticism of this issue (JUNE 1960) is that in your entire edition you did not present one complete building design. It was just one article, detail, etc., after another. Now I know that there is a lot of interest in the field of plastics today, but I think some variety is essential to a successful magazine. Architectural firms receive more than enough advertising to keep abreast of developments in almost any field.

I receive about four different architectural publications and simply cannot find the time to sit down and read through all this printed matter.

I would also like to see more work by young unknown architects and a greater variety of projects and buildings.

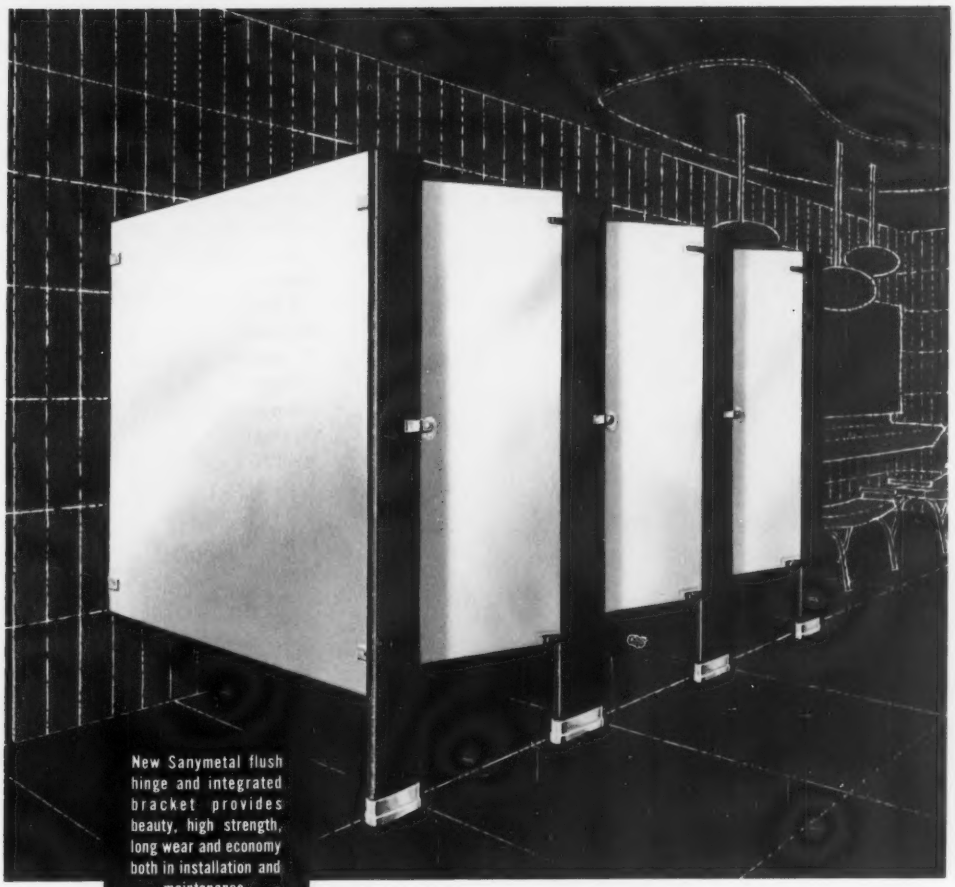
I hope this criticism has been constructive and look forward to forthcoming editions.

BERNARD DE ROO
Hawthorne, N. J.

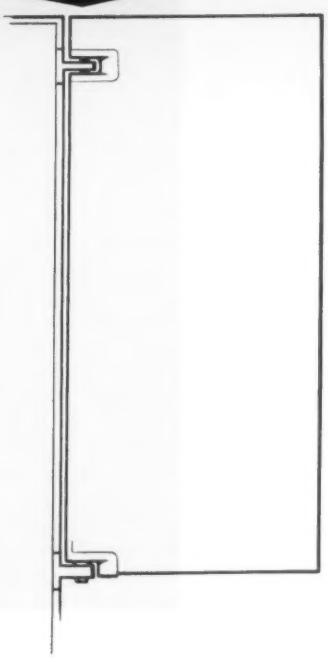
## *Plastics in Architecture*

Dear Editor: As a member of the staff of the Institute's research project which is studying plastics in building and is currently developing the plastic school pictured on page 171 of your June issue, I would like to commend you for your fine coverage of the extensive subject of plastics in architecture.

JOSEPH J. SCHIFFER
M.I.T.
Cambridge, Mass.



New Sanymetal flush hinge and integrated bracket provides beauty, high strength, long wear and economy both in installation and maintenance.



## ENGINEERED FOR *Beauty* AND *Long-range Economy*

Sanymetal again offers the unusual . . . solid research and engineering combined with function, strength and beauty. Only Sanymetal furnishes the theftproof, fully integrated bracket and the recessed flush hinge on all toilet compartment doors.

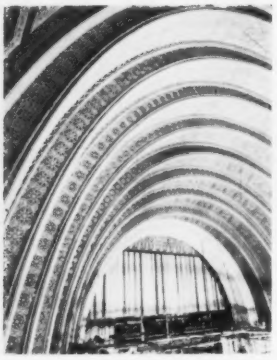
This feature alone offers savings in installation time and provides for far easier cleaning. For highest quality and lowest installed cost . . . specify Sanymetal.

Contact your local Sanymetal representative for full details . . . you'll find him listed in Sweet's file or the Yellow Pages.

**Sanymetal®**
***world's leading producer of toilet partitions***
*1721 Urbana Road, Cleveland 12, Ohio*

Nameplate identifies every compartment

# The Man Behind the Façade



BY GRANT MANSON
*Professor of Architecture & History of Art, University of Southern California,* *reviews* Louis Sullivan as He Lived. *Willard Connely. Horizon Press Inc., 220 W. 42 St., New York 36, N. Y., 1960. 322 pp., illus. $6.50*

Anyone who is more than a casual reader in the literature of American architecture will at once compare this book with the 25-year-old book on the same subject by Hugh Morrison. We have been accustomed to thinking of Professor Morrison's *Louis Sullivan, Prophet of Modern Architecture* (W. W. Norton, New York, 1935) as the "classic" work for long enough to welcome something new, but at the same time to ask the critical question: What does the new offer? In his preface, Connely addresses himself directly to this question. He points out that Morrison had to rely for peripheral data largely on a somewhat reticent George Elmslie, and therefore felt himself so handicapped on occasion by the nature of his source that he "wished to entitle his book, more accurately, *The Architecture of Louis Sullivan*." The present author points to his good fortune in having at his disposal the personal recollections of Miss Andrienne Sullivan, Louis Sullivan's niece, and her rich store of family records and letters. The reader will therefore expect a heavier emphasis on biography in the new monograph and a considerable outpouring of facts which have not hitherto come to light. As for analysis of Sullivan's architecture, the reader will not at first know what to expect, but he will be on guard, for Connely is neither an architectural critic nor an art historian, but rather a journalist and an administrator of wide interests.

The early chapters of Connely's book justify the first expectation. Dealing with origins and family matters up to the Chicago reunion of the family in 1873 (after, Louis's famous sojourn in Philadelphia and contact with Frank Furness), these chapters read like the early ones in Morrison, but refurbished with letters and fresh, intimate detail. The style is less restrained; it is that of a raconteur, retelling a familiar story but with the confidence of an up-to-date delivery and some choice new items up his sleeve. This tone, in fact, persists throughout the book, and carries the reader along in buoyant anticipation that every turn of the page will tell him something about Sullivan that he didn't

*Continued on page 196*

Gibson Fixtures Give You
More Than Good Lighting . . .
Much More!

Architect: Korslund, LeNormand & Quann, Inc. / Electrical Engineer: Edwin L. Steinbrenner / Electrical Contractor: Hixon Electric Co. / General Contractor: Vappi & Co., Inc.

"Gibson lighting fixtures offer distinct advantages in installation and maintenance," reports an official of The Foxboro Company which uses Gibson fixtures throughout its new assembly building.

"Our Gibson fixtures," he says, "were installed faster and at lower cost than any others we have used. The fact that these fixtures can be plugged in and un-plugged like an electric appliance means that they can be quickly re-spaced to accommodate changes in plant layout and can be dismounted instantly for servicing without distracting production workers."

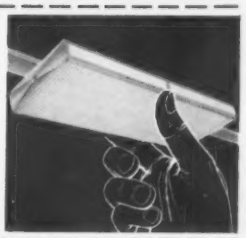
***Write for descriptive literature today.***

GIBSON

Gibson LIGHTING

*Makers of*
THE FIXTURES
THAT JUST
**"PLUG-IN"**
PAT. PENDING

COMMERCIAL, TROFFERS, INDUSTRIAL



**GIBSON MANUFACTURING COMPANY**
1919 Piedmont Circle, N. E., Atlanta 9, Georgia

# FIRE and 5 Gold Bond products to control it!

Man's ancient enemy is getting more attention these days. As fire codes stiffen and construction costs rise, architects are asking: "How can I get the most performance per dollar from fireproof construction?" The following five Gold Bond products all offer you fire protection . . . *plus* some very practical extras. Look them over carefully, they deserve it. Then if you have questions, call your Gold Bond® Representative, or write us direct for detailed information.

# Fire-Shield Acoustical Tile has two-hour fire rating

**TIME-DESIGN RATED IN STANDARD "J" SUSPENSION SYSTEM**

Fire-Shield® Tile is tested and assigned a two-hour fire retardant classification by Underwriters' Laboratories when used as protection for bar-joist construction. Suspension is the familiar Gold Bond concealed "J" System. Performance includes NRC's up to .80, high light reflection and exceptional sound attenuation ratings (see chart). Random-Drilled, Fissured and Needlepoint patterns make a handsome selection to suit any interior decor. For technical information and price, contact your Gold Bond® Acoustical Contractor, Company Representative, or write Dept. PA-9601.

**NATIONAL GYPSUM COMPANY, BUFFALO, 13, N. Y.**

Gold Bond
BUILDING PRODUCTS

## a step ahead of tomorrow

*Continued from page 192*

know before. Only occasionally will he remark to himself that, as story, the two books are sometimes perilously close to identity. Each, for example, carries the same memorable anecdote about the impressive, frock-coated Boston gentleman who overawed the boy Louis Sullivan and made an indelible stamp upon his ambition simply by being that august person, an architect. Each joyfully describes Frank Furness's fan-like red beard, bulldog countenance, and loud plaid suits (how much we are indebted to this recollection for our visual conception of Furness!). Each speaks of the stifling heat of the Philadelphia summer of 1873, of Louis's wanderings in Fairmount Park, of the failure of Jay Cooke & Co., of the buildings that caught Louis's notice. But here is where Connely's relative up-to-dateness begins to count—for Morrison mentioned only a Furness dwelling in South Broad Street while Connely speaks of the David Jayne Building of 1849, that extraordinary proto-skyscraper of granite which was unknown by the critics in 1935 but which, by the time the Federal Government had pulled it down in 1959, became a *cause célèbre* among the knowing ones. Everyone now agrees that it had more influence upon Sullivan than all of Furness put together.

Of course, the resemblance between the two books as story is inevitable, for both authors dip constantly into Sullivan's own autobiography and various memoirs, as is only natural. The difference is that Connely uses, as he states at the outset of his book, family records that were unavailable to Morrison, and he writes with greater verve. When we come to the meeting of Sullivan and Adler, with John Edelmann as go-between, Connely's greater ease as a writer is demonstrated, for he is able to make the well-known episode come to sparkling life with deft, dramatic touches, almost as if he said, with a flourish of vanity, "There, haven't I done it a little better?"

The difference between the two books really makes itself felt after the establishment, in 1881, of the firm of Adler and Sullivan and the initiation of Sullivan's significant career. Thereafter, Morrison kept to a straightforward account and painstaking analysis of Sullivan's buildings, one by one, until a very clear (although rather dry) picture of the whole architectural career emerges. Connely, however, continues to interlard and interrupt the career with that outpouring of biographical detail which the reader had, in the first instance, foreseen.

Morrison was primarily interested in Sullivan the designer, Connely is enthralled with Sullivan the man. This difference in approach is underscored by the set of illustrations each author chooses. Aside from the necessary and expected views of buildings, Morrison included four personal photographs: two of Sullivan, two of Adler. Connely gives us the whole cast of characters, including a rare and revealing photograph of Sullivan's wife, Margaret Hattabough. Actually, it has always seemed that Sullivan's brief, issueless marriage was more than a minor episode in his life, that it was a clue to many of the man's characteristics and actions. It is tantalizing, in Morrison's book, to find only one noncommittal reference to it. From Connely we learn a good deal about Margaret

Sullivan; what we see is like a mirror in which is reflected yet another aspect of the visage of her complex, moody, unsatisfactory husband and the hidden weaknesses in him which led eventually to his tragic retirement. We learn about their withdrawn, rose-embowered life at the cottage at Ocean Springs, Mississippi, and how it came about that Sullivan built it and its near-twin for the James Charnleys of Chicago. It is all very much worthwhile, and not merely for intangible values, but for practical ones, because after reading Connely, those shingle-sided cottages in the Mississippi forest (hitherto known to us in hazy old photographs taken long after the buildings had fallen into Charles Addams-like disrepair) come, like Margaret Sullivan, into focus, and their place in Sullivan's life becomes clearer.

As for a progressive, analytical account of the course of Sullivan's architecture, we learn of its circumstances, in fascinating detail, more than we learn of its actual construction. The development of the Auditorium commission, for example (the launching-pad from which Sullivan's fame was to soar), is told as an absorbing episode in the commercial and social life of Chicago in the 80s. It is not that Connely fails to describe the building, but that his viewpoint is that of the layman. He duly discusses the growth of the *parti* out of an original Queen Anne fussiness into a majestic severity; this is that crucial moment in Sullivan's career when the impact of Richardson is first felt. But to understand what happened to the Auditorium scheme under the force of this impact, more than words are necessary. Morrison supplied us with the preliminary drawings: Connely does not. In fact, it must be more than accident in the formulation of his book that Connely includes not a single plan for any building, not a single section, not a single working drawing other than that of Sullivan's ornament.

These remarks are not intended as destructive criticism. They are intended only as emphasis of the central fact that Connely's book is a distinctly different manifestation of interest in Louis Sullivan than Morrison's, a fact that is evident even from their subtitles. Each has its own separate value to the reader. He who is seeking a concise, professional presentation of Sullivan's work will still read Morrison; he who wants an absorbing novel based on real life will now read Connely.

### *End of the Search?*

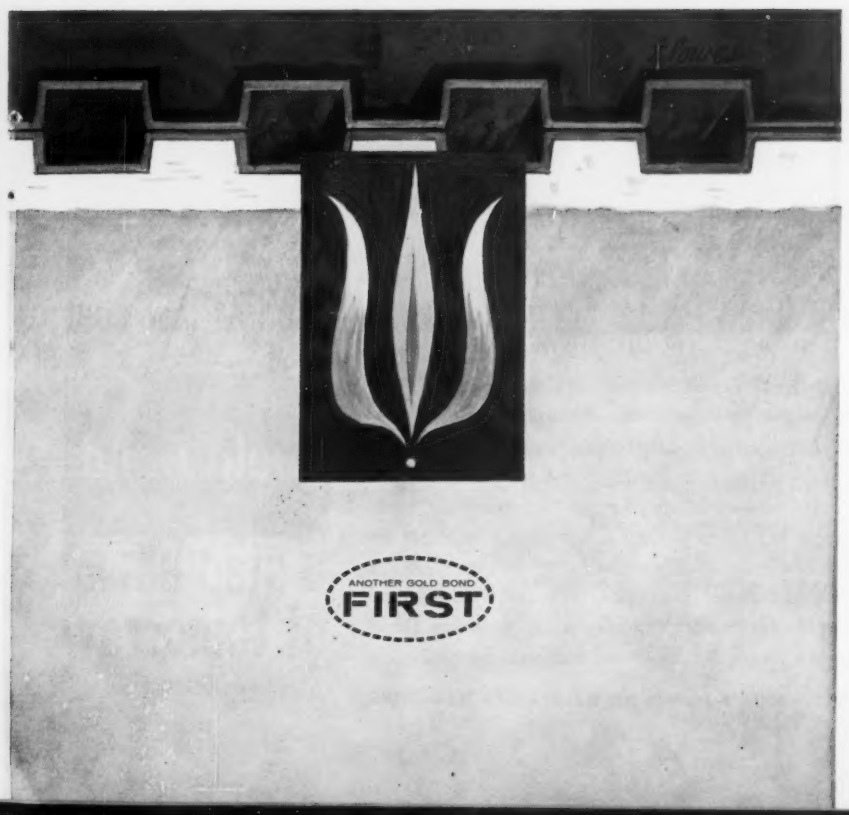
Richard Neutra: 1950-60. Buildings and Projects. *Edited by Willy Boesiger. Frederick A. Praeger, Inc., 64 University Place, New York 3, N. Y., 1959. 240 pp., illus. $15*

One of the distinguishing marks of the creative artist in any age and in any field has always been his unremitting search for greater insight, larger concepts, and newer forms of expression. He has always been dissatisfied with his actual achievement, ever striving toward a goal that was never to be reached because it was constantly being revised. To look no further than our own day, Picasso and Le Corbusier are clearly marked with the characteristics of this all-too-rare species of human being.

Of course, such continuing change of

*Continued on page 200*


# Fire-Shield Plaster sprays 4-hour protection in one coat!



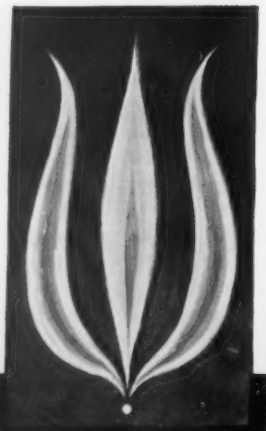

This remarkable new type of setting plaster gets jobs done faster, and at lower cost. That's because it sprays direct to steel decks and supporting beams, or to beams encased in metal lath. It adheres immediately to clean decks. And it dries (without fissuring) with a bond that is stronger than the material itself! A single coat of Gold Bond Fire-Shield® Plaster, sprayed ⅝" thick, will give cellular steel decks a *full four hour fire rating!* Get the complete story on this time-saving plaster. Ask your Gold Bond® Representative, or write Dept. PA-9603 for free samples and technical literature.

NATIONAL GYPSUM COMPANY, BUFFALO 13, N. Y.

Gold Bond
BUILDING PRODUCTS

a step ahead of tomorrow

# At last: a space-saving gypsum wallboard partition with 2-hour fire rating



This amazingly thin partition can save you hundreds of feet of valuable floor space in large jobs . . . it's only two inches thick! Yet the extra strength, composition, and design give you added fire protection (2 hours) and high resistance to sound transmission. The patented core (left) is 1″ Gold Bond® Laminated Gypsum Core Board with interlocking edges that grip tightly to each other. Large panels of ½″ gypsum wallboard are job-laminated to this core, producing a smooth, seamless wall in minimum time. Want a Gypsum Core Board sample and Technical Bulletin? Write Dept. PA-9604.

ANOTHER GOLD BOND
EXCLUSIVE

## 2″ lath and plaster partition saves space at low cost

Every four lineal feet of this unique Gold Bond lath and plaster partition saves you an extra square foot of floor space over conventional partitions. Quality plastering can be fast and inexpensive, thanks to the special 1″ core of Gold Bond Laminated Long Length Gypsum Lath. Only ½″ of plaster is applied to each side (right). The core, with exclusive interlocking edges, gives the partition good fire protection and better resistance to sound transmission. Ask your Gold Bond® Representative, or write Dept. PA-9605 for free lath sample and technical literature.

Gold Bond
BUILDING PRODUCTS

a step ahead of tomorrow

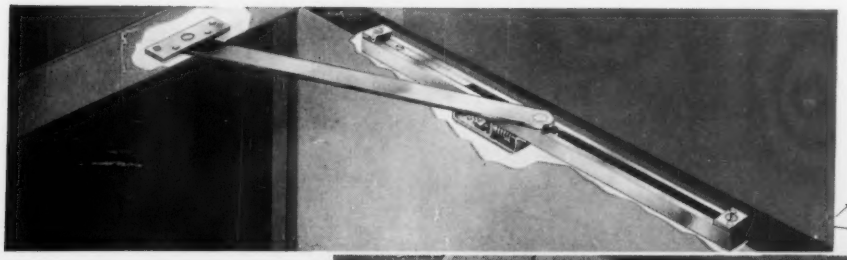
NATIONAL GYPSUM COMPANY, BUFFALO 13, NEW YORK

# GLYNN·JOHNSON

## *the complete line of OVERHEAD* DOOR HOLDERS

*overhead means out-of-the-way...

no stumbling hazards—no interference with cleaning

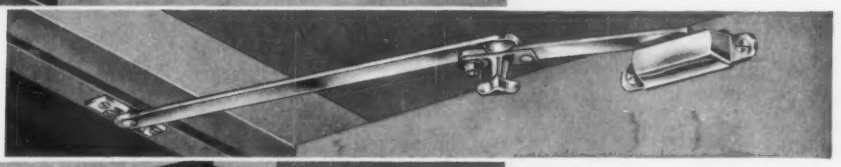


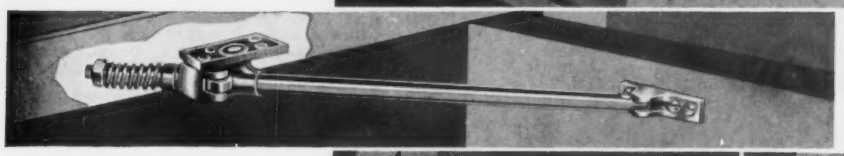
▲**GJ 100** **concealed (non-handed) for single and double acting doors.** The finest in appearance and long, trouble-free wear.

**GJ 90▶** **surface type (handed)**

◀**GJ ARISTOCRAT (non-handed) for single acting doors.** Ruggedly built for hard, practical usage.

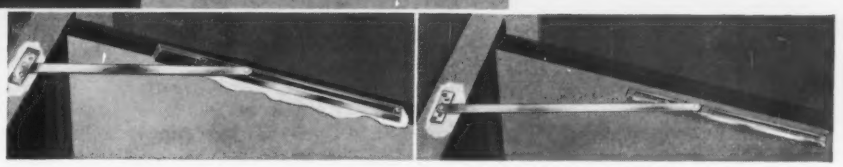
**GJ 80▶ (handed) for single acting doors.** For moderate cost installations.





◀ **GJ 70 (non-handed) for single acting doors.** Inexpensive for low-cost installations.

**GJ 300 and GJ 500 series▶ (non-handed)** concealed for single and double acting interior doors. Surface type for single acting doors. Spring cushion types and friction holder type.



**CUSHION THE STOP...** silently absorbing the shock of violent openings.

**HOLD THE DOOR...** hold-open engages silently... holds firmly... releases easily.

"*Life of the building*" GJ Overhead Door Holders are made of highest tensile strength alloys requiring minimum maintenance or replacements. They have built-in shock absorbers to cushion the stop and are made in various sizes for any width door.

*Write for complete details and templates.*

**GLYNN·JOHNSON CORP.**

**4422 no. ravenswood ave. • chicago 40, ill.**

*Continued from page 197*

goals and standards has its necessary reflection in the nature of the man's work, a fact that we recognize by speaking of his "periods"—formalist, plastic, blue, white, or pink. There will be times of relatively rapid change, separated by plateaus of investigation and development. It is these plateaus that we call periods.

On leafing through the handsomely produced volume surveying Richard Neutra's work of the past ten years, this reviewer, at least, had the nagging feeling that the master's present plateau is in danger of acquiring the dimensions of a plain. There is a certain serene sameness of scale, of rhythm, of expression, in his output of the last decade that bespeaks not the inspired restlessness of genius, but rather, to put it most respectfully, a supreme inner contentment.

This is not to say that Neutra's architecture is not every bit as beautifully reasoned and exquisitely proportioned as ever. On the contrary, there is an assurance, a confident touch to everything he does, that reveals a fully matured talent at the top of its powers. But the fact that his work at the beginning of the decade is not clearly distinguishable from that toward the end would seem to indicate that he has been engaged in the restful, if somewhat itchy, occupation of sitting on his laurels instead of trying on new ones.

Although Neutra writes and speaks eloquently of his belief in the human basis for architecture—an attitude with which he will find no disagreement here—his work, particularly his residences, appear to betray an unawareness on his part of the infinite variety that the species comprises. All his houses seem to have been designed for people who seek the same sort of ambience, and whose lives, at different levels of affluence, follow the same patterns. Of course it may well be that the clients who seek him out in the first place already represent a preselected stratum and are therefore not to be considered as broadly representative of humanity as a whole. People who want a Neutra house are pretty special to begin with, so that this last comment may be pure carping.

The book contains many splendid photographs, mostly by the very skilled Julius Shulman, and a text in three languages—English, French, and German. Since some of Neutra's most pithy comments of the last ten years are included, this volume should be a welcome and valuable addition to the Neutra shelf.

EUGENE RASKIN
New York, N. Y.

### *Design Handbook*

Practical Prestressed Concrete. *H. Kent Preston. McGraw-Hill Book Co., Inc., 330 W. 42 St., New York 36, N.Y., 1960. 340 pp. $11.50*

For the practicing engineer who needs a guide for designing and detailing the most common types of prestresed-concrete members, this book provides a great deal of handy and up-to-date information, along with simple and systematic design procedures. Several lengthy numerical design examples are included: a pretensioned bridge with a poured-in-place deck, a double-T roof, a post-tensioned girder, examples of prestressed piles, and a simple procedure for designing continuous structures. All specifications are based upon the 1958 *Tentative Recommendations for Prestressed Concrete*, a report published by the Joint ACI-ASCE Committee on Prestressed Reinforced Concrete (and included in this book, with notes by the

*Continued on page 204*


FREEZE-PROOF

HAWS Free Flowing Fountain Service in *any* Climate!

For positive Winter Protection against costly "freeze-ups" and excessive maintenance of outdoor fountains ...specify HAWS Freeze-Proof Units! Get year 'round drinking service. The choice of style is yours! Freeze-Proof Units are available with virtually any style fountain from HAWS' complete line—wall or pedestal, single or multiple bubbler. For details on model selection and installation ... see SWEETS Architectural File, or write today for catalog.

HAWS FREEZE-PROOF DRINKING FOUNTAINS

products of
HAWS DRINKING FAUCET COMPANY
1441 Fourth Street • Berkeley 10, California
Export Dept.: 19 Columbus Ave. • San Francisco 11, California

# FREE—detailed color programs custom-fitted to your plans

**Specially prepared COLOR DYNAMICS® programs favorably impress clients, save you valuable time. No obligation.**

• **Your plans will be** still *more* impressive to clients when you include a COLOR DYNAMICS program. Prepared by Pittsburgh's staff of color experts, each is a complete "package"—even to inclusion of samples, recommendations as to coating types and proper preparation of special surfaces.

• **By the scientific use** of the *energy* in colors, COLOR DYNAMICS relieves eyestrain, reduces nervous tension and physical fatigue and increases efficiency. That is why many leading architects specify Pittsburgh's system of COLOR DYNAMICS for use in industrial plants, schools, hospitals, hotels, office buildings.

• **For free programs** to supplement *your* plans, mail coupon or phone your nearest Pittsburgh Plate Glass Company branch and have a representative call at your convenience.

**MAIL COUPON** for free COLOR DYNAMICS program to fit your plans

**Pittsburgh Plate Glass Company**
**Paint Division, Dept.** PA-90, **Pittsburgh 22, Pa.**

Please have your representative provide me with further information about Pittsburgh's *free* COLOR DYNAMICS service for architects.

Please send me free copy of your booklet on COLOR DYNAMICS for _____ industry, _____ hospitals, _____ schools, _____ commercial buildings.

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

**PITTSBURGH® PAINTS**

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

# a second look at curtainwall

If you have any preconceptions about curtainwall, they may be in for a change!

*Take flexibility*, for instance. Fenestra now offers standard components that can be used in a variety of steel and aluminum systems. The result: you can offer clients the design flexibility of a custom-made system at a far lower price.

*Or take availability.* Fenestra now offers the first, complete systems made by a single manufacturer. Windows, panels, grid frames and mullions—in aluminum or steel—are engineered, manufactured and delivered by a single source.

*Or take innovations.* In steel, Fenestra's new Fenmark system—already winning acceptance for its superior strength and design possibilities—has just proved itself by withstanding dramatic "destruction tests." And in aluminum, Fenestra's Fenwall system allows a wide variation of vent and panel styles without requiring special adaptors.

*Or take dependability.* Every Fenestra system is designed, manufactured, sealed, inspected, delivered, and erected weathertight by Fenestra.

Fenestra can accept this undivided responsibility because of its long, first-hand experience in the field. Let our local sales engineer put this experience to work for you. Call him; see Sweet's File 3a/Fe; or write: *Fenestra Incorporated, Dept. PA-09, 3409 E. Grand Blvd., Detroit 11, Mich.*

*Hurricane-proof! This Fenmark steel curtainwall weathered simulated hurricane without developing a flaw!*

PRODUCTS FOR THE NEW AGE IN ARCHITECTURE

Fenestra
INCORPORATED

*Steel and aluminum curtainwall systems*

*Steel and aluminum residential windows*

*Engineered windows for industrial, institutional and monumental buildings*

*Hollow metal doors*

*Light gauge steel structural systems for floors, roofs, walls, and electrified floors*

*Continued from page 200*

author). In addition to the design examples, which take up the bulk of the text, there is extensive data on typical members and the most common types of American prestressing equipment and techniques. All photos, drawings and tables are very clear, but the text suffers from the mixing of mathematics and discussion. This is very confusing and could easily have been avoided by indenting and using two kinds of type faces.

For structures that are at all unusual or experimental, there can be no substitute for a thorough grounding in the theory and testing of this exciting material. In such cases, this book will not be of much help, since there is included only a brief discussion of basic principles, and almost no mention of any but the most common types of members. Likewise, for a clear discussion of what prestressing is all about, divorced from the detailed arithmetic necessary to design prestressed members, one should look elsewhere—to a textbook rather than to a handbook such as this one. But for the great majority of prestressed structures, this book, supplemented by consultation with the local prestressing yard, will be all the engineer needs to produce safe and economical designs.

GORDON F. TULLY
New York, N. Y.

### *If Shopping Centers Must Be*

Shopping Towns, U.S.A.: The Planning of Shopping Centers. *Victor Gruen and Larry Smith. Reinhold Publishing Corp., 430 Park Ave., New York 22, N.Y., 1960. 288 pp., illus. $13.50*

This richly illustrated volume is so well organized that one feels the urge to get up and build a shopping center all by oneself after having studied it. The who, where, when, and how of suburban conglomerations of department stores and specialized retail/service facilities are analyzed with a profusion of data, charts, and photographs. The text is readable and clear—a notable rarity among such specialized handbooks. Thinking as a consumer (rather than a potential builder or tenant), one feels that if shopping centers must be, let them be built by Victor Gruen Associates and Larry Smith instead of by any wild-cat contractor who happens upon a piece of cheap farmland.

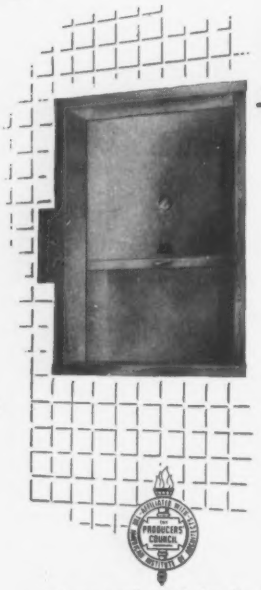
The reason for such an unabashed eulogy lies in the care of architectural grouping, shown in a fascinating sequence of various centers, and in the use made of art (sculpture and murals), landscaping, and light effects that have all but vanished from commercial architecture elsewhere. The wide gay malls and arcades of Gruen's designs offer to the suburban proletariat their only contact with architecture, and, ironical as it might seem, provide the only esthetic education their children may ever get. If this insistence on architectural and esthetic values is handled as brilliantly—in conjunction with the obvious profit motif—as in the shopping centers documented in this volume, it represents a positive asset that might almost balance a center's destructive function.

This destructive function of the shopping center is not evident in the book on Shopping Towns and is only indirectly related to it. But it should be mentioned to give a critical perspective to the visual and verbal persuasiveness of Gruen and Smith. By killing off all local retail trade, shopping centers are preventing the development of any civic cores in the new satellite towns of America. The traditional square (which

*Continued on page 207*


## Concentrate Responsibility...

*Specify*
SEDGWICK
**Dumb Waiters**
*and*
SEDGWICK
**Dumb Waiter Doors**



When you select a Sedgwick Dumb Waiter, you get a *completely* integrated installation — including dumb waiter doors — designed, engineered, manufactured and installed by Sedgwick.

This places the responsibility for the entire installation in the hands of *one* supplier — cutting in half the red tape, contracts and approvals, and eliminating your coordination of door and dumb waiter design and erection. Furthermore, all equipment is shipped at the same time, saving shipping and handling costs. The same mechanics install both doors and dumb waiters.

Sedgwick Dumb Waiters and Doors are available in a complete range of modern, improved types and standard sizes that can be adapted to fit requirements exactly.

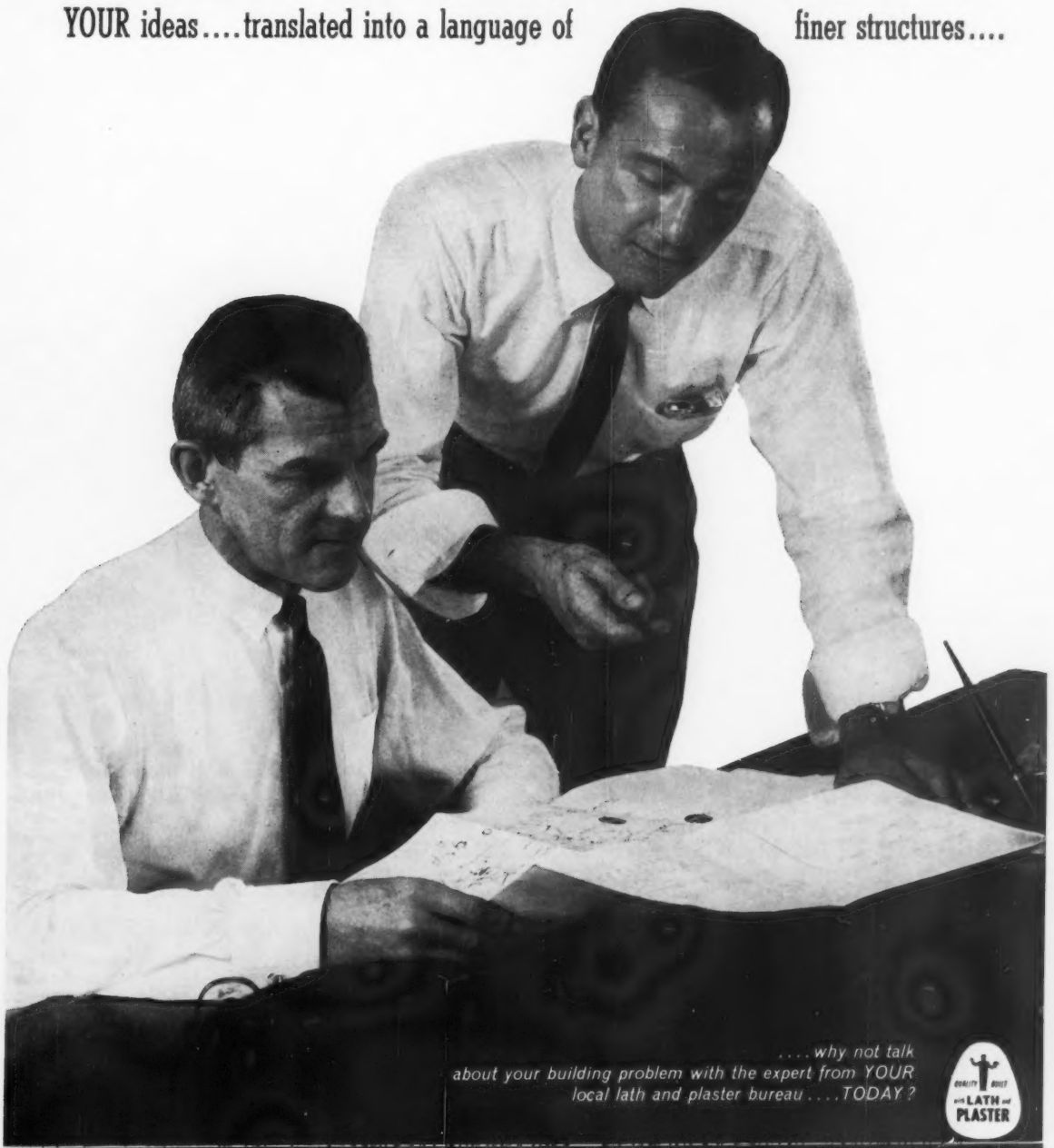
(See standard specifications and layouts in SWEETS 24a/Se

Doors are manufactured in bi-parting, slide-up, slide-down or hinged arrangement. Also access and clean-out doors. (Underwriters' Labelled where required.) *Send today for complete literature and specifications.*

*Other Sedgwick Products*
★ SIDEWALK ELEVATORS
★ FREIGHT WAITERS
★ RESIDENCE ELEVATORS
★ "STAIR-TRAVELORS"
**NATIONWIDE SERVICE**

**Sedgwick MACHINE WORKS**
164 West 15th Street, New York 11, N. Y
☐ Please send general information
☐ Please send specific recommendation
on: _____
_____
NAME _____
ADDRESS _____
CITY _____ STATE _____

**When you're figuring close**....and it gets down to the vital essentials.... look into the countless advantages of lath and plaster construction....new systems that end problems of weight....provide more exacting controls over the transmission of sound....the benefits of unmatched fire resistance....an ideal medium of endless flexibility that encourages the expression of original ideas.... YOUR ideas....translated into a language of finer structures....



....why not talk
about your building problem with the expert from YOUR
local lath and plaster bureau....TODAY?

NATIONAL BUREAU FOR LATHING & PLASTERING, INC., 755 Nada Bldg., 2000 K St. N.W., Washington 6, D.C.

*Design for a modern kitchen by Huson Jackson, A.I.A.*

## "CERAMIC TILE MAKES THE DIFFERENCE... EASY TO WORK WITH...RELAXING TO LIVE WITH..."

To help create a warm, functional kitchen, Architect Huson Jackson used ceramic tile . . . and captured this rare combination for work-free convenience and relaxed living.

The semi-separation of the breakfast area—at the right of the ceramic tiled cooking island—affords a pleasant place for eating and relaxation. In the kitchen section an aqua tone ceramic tile wall from floor to ceiling keynotes an easily cleaned, colorful work center. The tiled counter tops, drainboards and floor guarantee lifelong service and economy. Why? Ceramic tile won't burn, scratch or stain!

Inside or outside the home, ceramic tile surfaces give your clients *more* beauty, *less* work, negligible maintenance. Improved, lower cost installation methods are leading the way to even wider use of this quality product.

Huson Jackson

**THE MODERN STYLE IS . . .**

CERAMIC TILE

The many benefits of ceramic tile will make sense for both you and your clients in any residential, institutional or commercial project you undertake. See your local tile contractor for up-to-date information, including all the details on the new lower cost installation methods and the new dry-set portland cement mortar.

PARTICIPATING COMPANIES

American Encaustic Tiling Co., Inc.
Atlantic Tile Mfg. Co.
Aztec Ceramics, Inc.
Cambridge Tile Mfg. Co.
Carlyle Tile Co.
Continental Ceramics Corporation
General Tile Co.
Gladding, McBean & Co.
Hood Ceramic Corporation
Jackson Tile Mfg. Co.
Jordan Tile Mfg. Co.
Lone Star Ceramics Co.
Monarch Tile Mfg. Inc.
Mosaic Tile Co.
Murray Tile Co., Inc.
National Tile & Mfg. Co.
Olean Tile Co.
Oxford Tile Company
Pacific Tile and Porcelain Co.
Pomona Tile Mfg. Co.
Redondo Tile Company
Ridgeway Tile Co.
Robertson Mfg. Co.
Stylon Corp.
Stylon Southern Corp.
Summitville Tiles, Inc.
Texeramics, Inc.
Wenczel Tile Co.
Winburn Tile Mfg. Co.

TILE COUNCIL OF AMERICA, INC.
800 Second Avenue, New York 17, N. Y.;
Room 933, 727 West Seventh St.,
Los Angeles 14, Calif.;
Room 207, 5738 North Central
Expressway, Dallas, Texas

.. CERAMIC tile

*Continued from page 204*

gives identity to a community) functions through stores, restaurants, professional offices, etc., all of which depend on each other for the attraction of crowds. The shopping center channels off this congregational instinct. It is the farthest point in space and time from the market fountain around which centered the life of urban man. Resultant from this supercommunal aspect of shopping centers is a deadly uniformity of living standards. Ours is a mass-fabricated civilization, but even the slight and desperately needed differentiations between, say, life in a New England town and in the Deep South, are leveled off by merchandizing engineered in the vast companies backing the shopping center stores. Then there is the decay of the city core, which has finally caused alarm in some places. The enormous investment in public services, represented by a city, is bankrupted by falling revenue from retail and services.

Shopping centers live exclusively by the automobile and consequently by highway construction. Their logic is based on the two-car family. As long as the present enormous prosperity lasts, shopping centers will be built; and we hope that they will be built by Victor Gruen and Larry Smith. If this prosperity should end one day, or gasoline rationing (a mere 15 years past) should again become necessary, we shall look at their book as a monument to the unquenchable optimism of technological man!

In conclusion, an architectural historian must register two protests. The Greek Stoa was by no means a building specially designed for the display and sale of merchandise, as asserted in the introduction to this book. On the contrary, it was a portico with a columned front which was raised above the agora or market place to separate social and educational gatherings from the activities of the agora (which were predominantly commercial). The very word stoa derives from the philosophical school of the Stoics whose founder, Zeno, taught in the old Athenian stoa—"a painted corridor on the north end of the market place in Athens." Only under Roman influence in Hellenistic times was the stoa used for trading.

The other objection concerns the title of the book: *Shopping Towns, U.S.A.* Please, dear authors, don't support the increasing semantic muddle! A town has many definitions but its most basic one is "a unified compound of habitations supplied with complete cultural, social, and economic facilities." Shopping Centers is a good and serviceable term. Let's stick to it as long as they last!

SIBYL MOHOLY-NAGY
New York, N. Y.

## *Plastics: An Esthetic Approach*

Plastics for Architects, Artists and Interior Designers. *Armand G. Winfield. Introduction by Harold Horowitz. Society of Plastics Engineers, Inc., Stamford, Conn., 1960. 50 pp., illus. $2.25 (paperbound)*

This monograph reprints two papers from recent technical conferences of the Society of Plastics Engineers. Subtitled "an illustrated survey of some of the best uses of plastics in the building and decorative fields," the book presents an esthetic approach to thermosetting and thermoplastic materials. Intent of the articles is to stimulate a better understanding between the creative and the technological—between the architect, artist, and interior designer, and the plastics technologist.

Appendices include glossary of plastics terms; list of architects and designers working with plastics materials; addresses of societies in the plastics field; and selective magazines and publishers dealing with plastics in arts, crafts, and architecture.

E. P.

## *Region Without a Style*

The South Builds: New Architecture in the Old South. *Edward and Elizabeth Waugh. Henry L. Kamphoefner, Advisor. University of North Carolina Press, Chapel Hill, N. C., 1960. 171 pp., illus. $12.50*

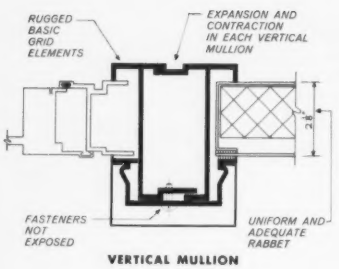
*The South Builds* is both fascinating and depressing The fascinating aspect is in the numerous, handsome edifices depicted. Basically a picture book, the work treats the reader to some excellent photographs of contemporary architecture.

Equally excellent is an all-too-short introduction titled, "The South and Its Architecture." Here the authors level some much-deserved criticism at contemporary architectural thinking, especially at the lack of urban planning in the new dormitory suburbs. Further, they state that "the sameness which is apparent from Washington to New Orleans, from Richmond to Memphis, is a staggering comment on the esthetic degradation of a great people." They point out, perhaps too briefly, that the South in ages past was characterized by a

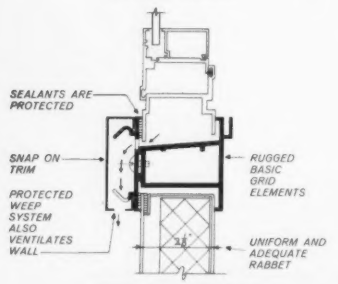
*Continued on page 210*

# Robertson Versatile Wall

## GIVES YOU CUSTOM DESIGN FREEDOM WITH STANDARD CURTAIN-WALL COMPONENTS


RUGGED BASIC GRID ELEMENTS
EXPANSION AND CONTRACTION IN EACH VERTICAL MULLION
FASTENERS NOT EXPOSED
UNIFORM AND ADEQUATE RABBET

VERTICAL MULLION


SEALANTS ARE PROTECTED
SNAP ON TRIM
PROTECTED WEEP SYSTEM ALSO VENTILATES WALL
RUGGED BASIC GRID ELEMENTS
UNIFORM AND ADEQUATE RABBET

HORIZONTAL MULLION

**Regional Office Building, Allstate Insurance Co., Skokie, Illinois.** Dunlap & Esgar, Architects; J. L. Simmons Company, General Contractor.

**St. Vincent's Hospital, School of Nursing, Toledo, Ohio.** Drake and O'Meara, Architects; A. Bentley & Sons Co., General Contractor.

Robertson Versatile Wall offers the designer unique latitude for individual expression without subjecting him to the pitfalls of high cost and lack of weatherability sometimes encountered in customized curtain-wall construction. Components are standard—see the mullion cross-sections at the left. Sealants are the best available and they are protected. Sections won't leak through under hurricane conditions. Units will expand and contract to care for building movement and steel framing tolerances without loss of tight seal. But the three basic elements which change appearance can vary so much that your design can be as individual as your own signature.

## 1. *the grid*

Individuality in a curtain wall design is realized first by the proportions and detailing of the mullions and sills which form the grid system. With Versatile Wall, the designer can choose from a large selection of sizes, profiles, materials and colors. The snap-on caps can vary greatly in depth to give emphasis where desired. The choice of many beautiful colors in porcelain enamel on aluminum invites originality. Aluminum and stainless in their characteristic finishes also available.

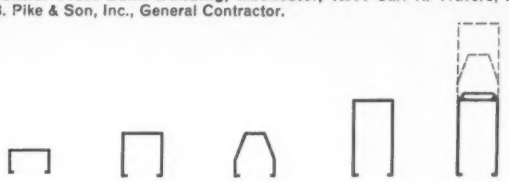
## 2. *panels*

Here, again, the designer can choose from a large array of colors and materials. Robertson Spandrel Panels, insulated or uninsulated, can be furnished in a wide variety of colors in porcelain on aluminum, steel or aluminized steel. Panels of glass, tile or polished stone can also be used with Robertson Versatile Wall. For special conditions, porcelain laminated panels can be furnished.

## 3. *sash*

A complete line of sash in fixed, reversible, top hinged, side hinged and projected styles are made in fourteen types to handle every window requirement. Six hundred standard sizes are made for use with Robertson Versatile Wall.

**The Central Trust Bank Building, Rochester, N.Y.** Carl R. Travers, Architect; John B. Pike & Son, Inc., General Contractor.



The caps shown should not exceed 6" in depth and 3¾" in width. Deeper mullions can be obtained by using combination caps. Consult a Robertson representative for specific details.

V—100 insulated glass-faced ceramic tile

A few of the many types and sizes of Robertson Sash available.

**St. Therese School, Fort Wayne, Ind.** James McCarron, Architect; G. Lauer Construction Co., General Contractor.

# H. H. Robertson Co.

*50 years of experience in Puttyless Glazing Construction*

**2403 Farmers Bank Building · Pittsburgh 22, Pa.**

**In England**—Robertson Thain Ltd., Ellesmere Port, Cheshire
**In Canada**—Robertson-Irwin Ltd., Hamilton, Ontario; Edmonton, Alberta

Write for your copy of file folder containing complete details and specifications on Versatile Wall.

NAME_____

TITLE_____

COMPANY_____

ADDRESS_____ CITY_____

*Continued from page 207*

series of truly regional styles. One need only mention the Tidewater mansions of Virginia, or the houses of New Orleans, Natchez, Charleston, or Williamsburg to recall the architectural manifestations of distinct regional and cultural developments.

The heritage of the past is still manifest in much of today's Southern architecture, not in a desirable sense in that it has helped create a new architecture of the South, but rather in that it has supplied mass-produced items that are "superimposed and applied upon houses and buildings as a kind of costume that one might wear to a fancy dress ball." Fortunately, as this book shows, the South is more and more abandoning this type of architecture.

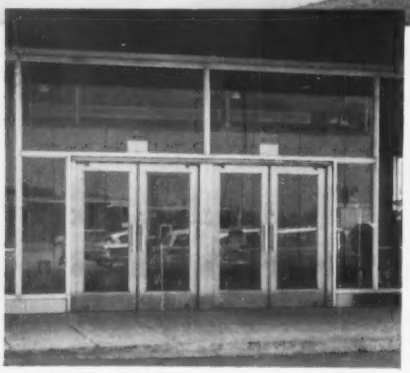
It is precisely here that one feels the depressing aspects of *The South Builds*. The South today is a region without its own architecture. It has abandoned the past which is no longer applicable, but it has not yet found the path to the future. As the illustrations in this book show, there is a great deal of excellent and striking architectural work in the South today, but it is not Southern. The buildings have no common link that identifies them as a regional architecture. The houses would be just as much at home in California (or any other area with a suitable climate) as they are in Florida or Virginia. The institutional and office buildings, too, could belong to any region. They express their functional purposes and the power of their corporate owners but not the cultural heritage of the area.

Perhaps it is too much to hope for a regional architecture in the Twentieth Century. Science has shrunk the globe, and mass culture and technology have replaced individual thinking and the artisan. Under such conditions, perhaps the current architecture of the South should be evaluated on a different basis: on the national and international rather than on the local level. Within the larger framework, contemporary Southern architecture more than holds its own.

DR. FREDERICK HERMAN
College of William & Mary
Norfolk, Va.

BEAUTY and PERMANENCE
Ellison BALANCED DOORS in Stainless Steel

Typical Oasis on the Northern Illinois Toll Highway



PACE ASSOCIATES
ARCHITECT—ENGINEER

120 Ellison Balanced Doors in Stainless Steel were installed to provide lasting quality in appearance and performance for the entrances to Restaurants and Service Stations at all five oases on the Northern Illinois Toll Highway. The oases were constructed for and owned by Standard Oil Company (Indiana).

the door that lets TRAFFIC through QUICKLY

*Ellison Engineers are at your service to help solve any unusual entrance problems — call Jamestown, N. Y., 61-594*

Ellison ELLISON BRONZE CO., INC.
Jamestown, New York
representatives in 72 principal cities in U.S., Canada and Puerto Rico
the BALANCED DOOR

## *Economic Base Re-examined*

The Techniques of Urban Economic Analysis. *Edited by Ralph W. Pfouts. Chandler-Davis Publishing Co., P.O. Box 36, West Trenton, N.J., 1960. 410 pp. $5 ($4.25 paperbound)*

For some forty years, land economists and planners have been utilizing a concept of the urban economic base that comprises two types of activity: basic industries (which produce goods and services for export outside the community) and service industries (which supply items for consumption within the community). The former, so the theory runs, enable the community to operate and grow, while the latter are merely parasitic functions that add no real value to a city's economy.

This highly simplified version of the economic base theory has been tested and re-examined many times in the past four decades, resulting in its modification almost to the point of disappearance. For the apparently simple idea that some activities are primary and others secondary has been found, in the light of the searching examination to which it has been exposed, to correspond very imperfectly to the real world.

Ralph Pfouts has collected an impressive series of articles, mostly drawn from *Land Economics* and the *AIP Journal*, which range from examinations of the

*Continued on page 214*

# WEIS *toilet compartments now certified for...*

① MATERIALS
② CONSTRUCTION
③ FINISHES

YOUR GUARANTEE
CERTIFIED
OF SATISFACTION

## Certification

MATERIAL — CONSTRUCTION — FINISH

We hereby certify toilet compartments furnished on our order # _____,

for project _____, are in accordance with

plans and section _____ of specifications _____.

### MATERIALS

**Type of Steel** — Where galvanized Bonderized steel is specified, the minimum zinc coating shall be a nominal .15 mils each side as supplied by.

_____

**Gauges of Steel** — Minimum standards shall be as follows:
22 gauge — Flush Partitions 48" and under; Doors.
20 gauge — Flush Partitions over 48"; Stiles (with headrail); Edge Molding (galvanized Bonderized with die-formed stainless steel corners).
18 gauge — Panel Partitions.
16 gauge — Stiles (without headrail).

**Headrail** — 20 gauge lockseam tubing (1½" x 1⅜").

**Wall and Stile Brackets** — Floor Mounted or Ceiling Hung: Zamak, extra heavy die cast and chrome plated.
Headrail Braced: Extruded aluminum, etched and anodized.

**Floor Fastenings** — Heavy zinc plated steel

**Shoes** — Stiles 4" wide and wider: .031 stainless steel, full 3" high, hemmed top and bottom.
Stiles under 4" wide: Zamak, extra heavy die cast.

### CONSTRUCTION

**Face Plates of Stiles, Doors and Partitions** shall be welded at regular intervals throughout. Door and Partition welds shall be made WITHOUT use of gas flame or electric arc.

**Corners of Doors and Partitions** shall be fabricated WITHOUT welding or grinding.

**Door and Partition Fillers** shall be double-faced honeycomb.

**Stile Reinforcing and Mounting Assembly** shall be assembled to stile BEFORE enamel is applied, and welded WITHOUT use of gas flame or electric arc. Enamel shall consist of two coats of baked-on organic or one coat of porcelain.

### ENAMEL FINISHES

**Application** — shall be by electrostatic process in a dust-free atmosphere. Enamel shall be cured by oven baking.

**Quality** — shall be such as to meet the following specifications:

| | |
|---|---|
| Humidity (100% @ 100°F.) | 1,000 hours (min.) |
| Salt Spray (20% @ 100°F.) | 300 hours (min.) |
| Water Soak (105°F.) | 1,050 hours (min.) |
| Abrasion (1,000 gm. wt. CS10 Wheel) | 13.65 m.g. (max. loss) |
| Thickness | 1 mil (min.) |
| Hardness | "H" (min.) |

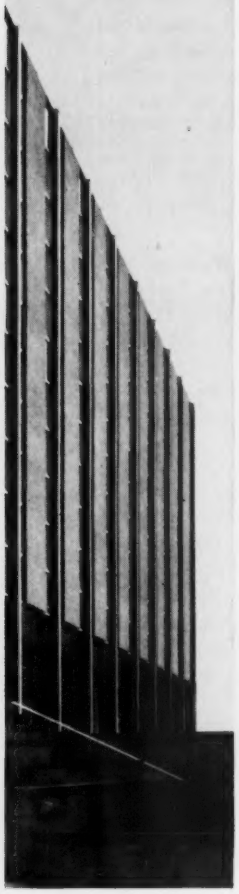
HENRY WEIS MANUFACTURING COMPANY — Elkhart, Indiana

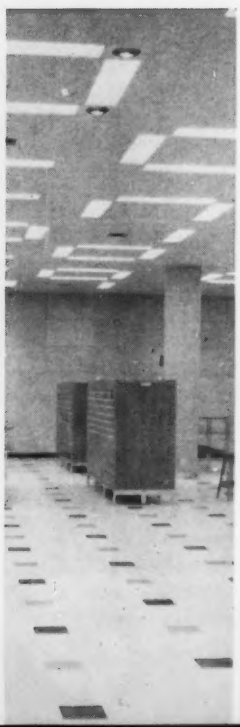
_____ _____

President Secretary

Day-Brite lighting helps make the new Pius XII Memorial Library a center of attraction on the St. Louis U. campus.

Day-Brite Troffers with Cleartex® Plastic Lens Panels deliver 73 footcandles of illumination to reading areas.





*Architect and Engineer: Leo A. Daly • Electrical Contractor: Sachs Electric Corp.*

# How Day-Brite lighting "sells" reading in the new Pius XII Memorial Library

From the architect's first draft to the final choice of curtains, St. Louis University's modern new library was planned with one goal in mind: to encourage students to *use* it.

Self-service, open-type book shelves were used to invite "browsing" among the stacks. "Wide-open" interior design helped create a pleasant atmosphere. In addition, comfortable bright-colored furniture was contrasted against light-colored walls and a noiseless cork floor.

Lighting, of course, was a major consideration. It had to facilitate reading and, at the same time, add to the over-all cheerfulness. Day-Brite lighting was specified for high-level, high-quality illumination and clean, modern fixture design.

Good vision calls for good lighting. And you display good vision when you call in your Day-Brite representative early. *Day-Brite Lighting, Inc., 6260 N. Broadway, St. Louis, Mo., and Santa Clara, Calif. In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ont.*

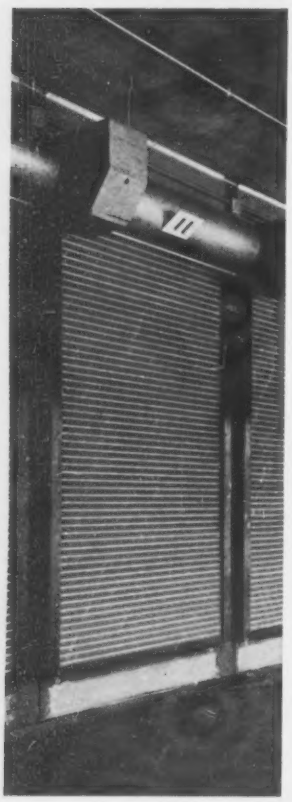
DAY-BRITE

NATION'S LARGEST MANUFACTURER OF
COMMERCIAL AND INDUSTRIAL LIGHTING EQUIPMENT

# **Kinnear** Motor Operated **Rolling Doors...**

*a feature of Theo. Hamm Brewing Company's*

## Automated Loading Dock



Here again, Kinnear Rolling Doors play a key role in *modern efficiency at its best!*

The 23 power-operated Kinnear Rolling Doors you see above are controlled independently from a master switch.

Conveyors ending just inside each door deliver pallets holding cases of beer to the loading dock. The door can then be opened by remote control. A fork truck picks up the pallets, travels onto dock levelers (at right, top photo) and loads the pallets on the waiting truck.

(Empty cases on pallets are returned to other conveyors through doorways installed higher above the dock level.)

By opening straight upward and coiling compactly over the doorway Kinnear Rolling Doors permit conveyors to come within *inches* of the door. Doors can be placed as close together as desired, with control switches at each door if preferred.

(Auxiliary chains, for door operation in case of power failure, are stored in the hood of each door.)

A rugged, all-metal curtain protects each opening when the Kinnear Rolling Door is closed — a positive barrier to trespassers, vandals, wind, and weather, *plus added protection against fire.*

Your needs may be vastly different; but *wherever you need* doors, you need the advantages of Kinnear Rolling Doors.

**The KINNEAR Manufacturing Company**

FACTORIES:

1900-20 Fields Avenue
Columbus 16, Ohio
1742 Yosemite Avenue
San Francisco 24, Calif.

Offices and Agents in All Principal Cities

**KINNEAR**
**ROLLING DOORS**
*Saving Ways in Doorways*


*Continued from page 210*

history and implications of economic base theory to a survey of its faults and a presentation of the increasingly more acceptable alternative of input-output analysis. It is worthwhile reading, but more appropriate for the *aficionado* of econometrics than for the lay reader.

DAVID A. GROSSMAN
Advance Planning Associates
Cambridge, Mass.

### *Books Received*

**Frank Lloyd Wright: Writings and Buildings.** Edited by Edgar Kaufmann & Ben Raeburn. Horizon Press Inc., 220 W. 42 St., New York 36, N. Y., 1960. 395 pp., over 150 illus. $3.95 (Meridian Books, Inc., 12 E. 22 St., New York 10, N. Y., 1960. 346 pp., over 150 illus. $1.95 paperbound)

**Building Research, International.** Proceedings of a program conducted as part of the 1959 Fall Conferences of the Building Research Institute, Division of Engineering & Industrial Research. National Academy of Sciences—National Research Council, 2101 Constitution Ave., Washington 25, D.C., 1960. 44 pp., illus. $1.50 (paperbound)

**Lettering on Buildings.** Nicolete Gray. Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y., 1960. 191 pp., 270 illus. $7.50

**The Cost of a Schoolhouse.** Educational Facilities Laboratories, 477 Madison Ave., New York 22, N. Y., 1960. 144 pp., illus. (paperbound)

**Food Service in Industry and Institutions.** J. W. Stokes. Wm. C. Brown Co., 135 S. Locust, Dubuque, Iowa, 1960. 261 pp., illus. $8

**Federal Credit and Private Housing: The Mass Financing Dilemma.** Chas. M. Haar. ACTION Series in Housing and Community Development. McGraw-Hill Book Co., 330 W. 42 St., New York 36, N. Y., 1960. 408 pp., tables, graphs. $12.50

**Alphabet Thesaurus: A Treasury of Letter Designs.** Studio of Photo-Lettering, Inc., Introduction by Edward Rondthaler. Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y., 1960. 736 pp., illus. $10

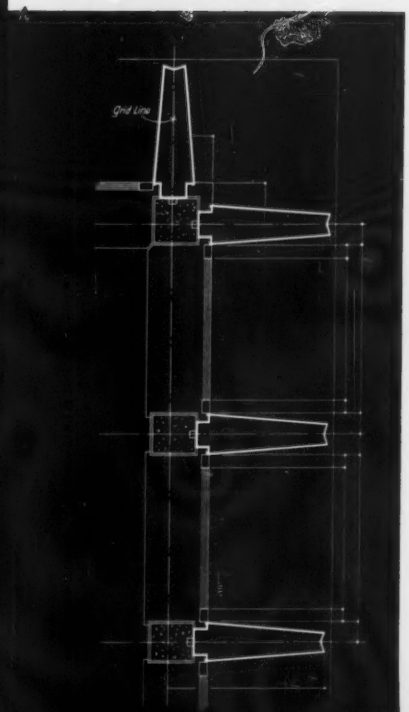
**Alvar Aalto.** Frederick Gutheim; **Antonio Gaudi.** George R. Collins; **Le Corbusier.** Françoise Choay; **Ludwig Mies van der Rohe.** Arthur Drexler;

*Continued on page 218*

## FOR THE HUNT LIBRARY
## CARNEGIE INSTITUTE OF TECHNOLOGY
## PITTSBURGH, PA.

# CURTAIN WALLS

## IN ALUMINUM
## by GENERAL BRONZE CORPORATION




Here's an example of a beautiful classical-modern effect achieved through the use of narrow window bays and deep, vertical mullions of contrasting shades of anodized aluminum.

In designing the new Hunt Library at Carnegie Tech., the architects, Lawrie & Green, used Permatite fully reversible, vertically pivoted aluminum windows set in narrow, aluminum framed bays. Thirty-six inch deep mullions between windows not only act as functional sun shades, but also add to the distinctive architectural beauty of the building.

General Bronze's vast experience in designing, fabricating and erecting curtain walls covers every style of architecture and every type of material. On your next job call in the General Bronze representative. You'll find him ready and anxious to be of service. Our catalogs are filed in Sweet's.

Hunt Library
Carnegie Institute of Technology
Pittsburgh, Pa.
*Architects:* Lawrie & Green
*Contractor:* George A. Fuller Co.

**GENERAL BRONZE**
**CORPORATION** · GARDEN CITY, N.Y.
SALES OFFICE: 100 PARK AVE., NEW YORK 17, N. Y.

PERMATITE DIVISION — Windows, Curtain Walls, Architectural Metal Work.
ALWINTITE DIVISION — Stock-size Aluminum Windows and Doors.
BRACH MFG. CO. DIVISION — Radio, Television and Electronic Equipment.
STEEL WELDMENTS, INC. DIVISION — Custom fabrication in Steel and Iron.
GB ELECTRONICS DIVISION — Telemetry and Tracking Antenna Systems

# "We cool for pennies per hour with

"We wanted comfortable air conditioning for our recreation center. But we also wanted low operating costs," states Mr. Walter Hosek, Chairman of the Building Committee of Sokol Zizka—SPJST Lodge No. 130 in Dallas. "That's why we chose gas-operated Ready-Power Air Conditioning. Although the initial cost is slightly higher than some other available types, we figure that this unit will more than make up the difference in a few years."

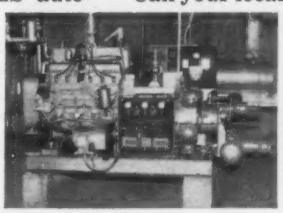
Mr. Hosek is so right. Ready-Power Gas Air Conditioning units achieve the lowest known operating costs. *Less than one cent per ton per hour!* Cooling

# READY-POWER GAS Air Conditioning"

is constant, as opposed to the ON-OFF operation of other systems. *LOADMATCH CONTROLS* automatically adjust output and fuel consumption to actual cooling requirements. And thrifty gas keeps fuel costs low.

Get all the facts on the unusual economy and efficiency of Ready-Power Gas Air Conditioning. Call your local Gas Company, or write to the Ready-Power Company, Detroit 14, Mich.

*American Gas Association*



*This 60-ton, gas-operated Ready-Power unit gives Sokol Zizka in Dallas high efficiency air conditioning at lowest operating costs.*

**FOR AIR CONDITIONING GAS IS GOOD BUSINESS!**

Major surgery in Mt. Sinai Hospital, New York, being performed with illumination from windows and one emergency light.

# Protect against power blackouts...

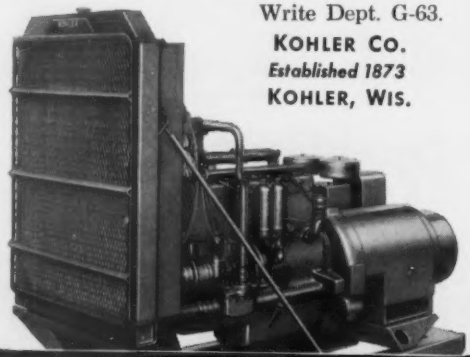
*specify*

## KOHLER ELECTRIC PLANTS

Widespread hazards, inconvenience, discomfort and loss occurred in places without standby power during the 13-hour power failure in New York's Manhattan last summer. Hospital surgery was performed without proper lighting; patients were served by candlelight. Buildings of many kinds had no use of lights, air conditioning, elevators, freezers.

Kohler electric plants are reliable, easy to install for emergency power made vitally important by today's increasing dependence on electrical equipment. To help you write specifications for varied applications, Kohler Co. will send on request a manual with complete data on sizes from 1000 watts to 100 KW, gasoline or diesel.

Write Dept. G-63.
KOHLER CO.
*Established 1873*
KOHLER, WIS.



MODEL 100R81
*100 KW, 120/208 volt AC. Stand-by. Remote start.*

KOHLER OF KOHLER
Enameled Iron and Vitreous China Plumbing Fixtures • All-brass Fittings
Electric Plants • Air-cooled Engines • Precision Controls


*Continued from page 214*

**Pier Luigi Nervi.** Ada Louise Huxtable; **Frank Lloyd Wright.** Vincent Scully, Jr. Masters of World Architecture Series. Edited by William Alex. George Braziller, Inc., 215 Fourth Ave., New York 3, N. Y., 1960. 128 pp. each, illus. $3.95 each

**Book of 1600 Ornamental Iron Designs Showing Details of Materials Used to Fabricate with Weights and Price Information on each Design.** R. J. Cunningham Designs, 3381 South 3200 West, Salt Lake City 4, Utah, 1960. 411 pp., 4 vols., illus. $29.75

**New York Metropolitan Region Study: Volume 6, Freight and the Metropolis.** Benjamin Chinitz. Harvard University Press, Cambridge 38, Mass., 1960. 211 pp., illus. $4.50

**Elementary Engineering Mechanics.** Eugene George Key. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y., 1960. 457 pp., illus., diagrams. $5.50

**Inside Today's Home (Revised Edition).** Ray & Sarah Faulkner. Holt, Rinehart & Winston, Inc., 383 Madison Ave., New York 17, N. Y., 1960. 584 pp., illus. $11

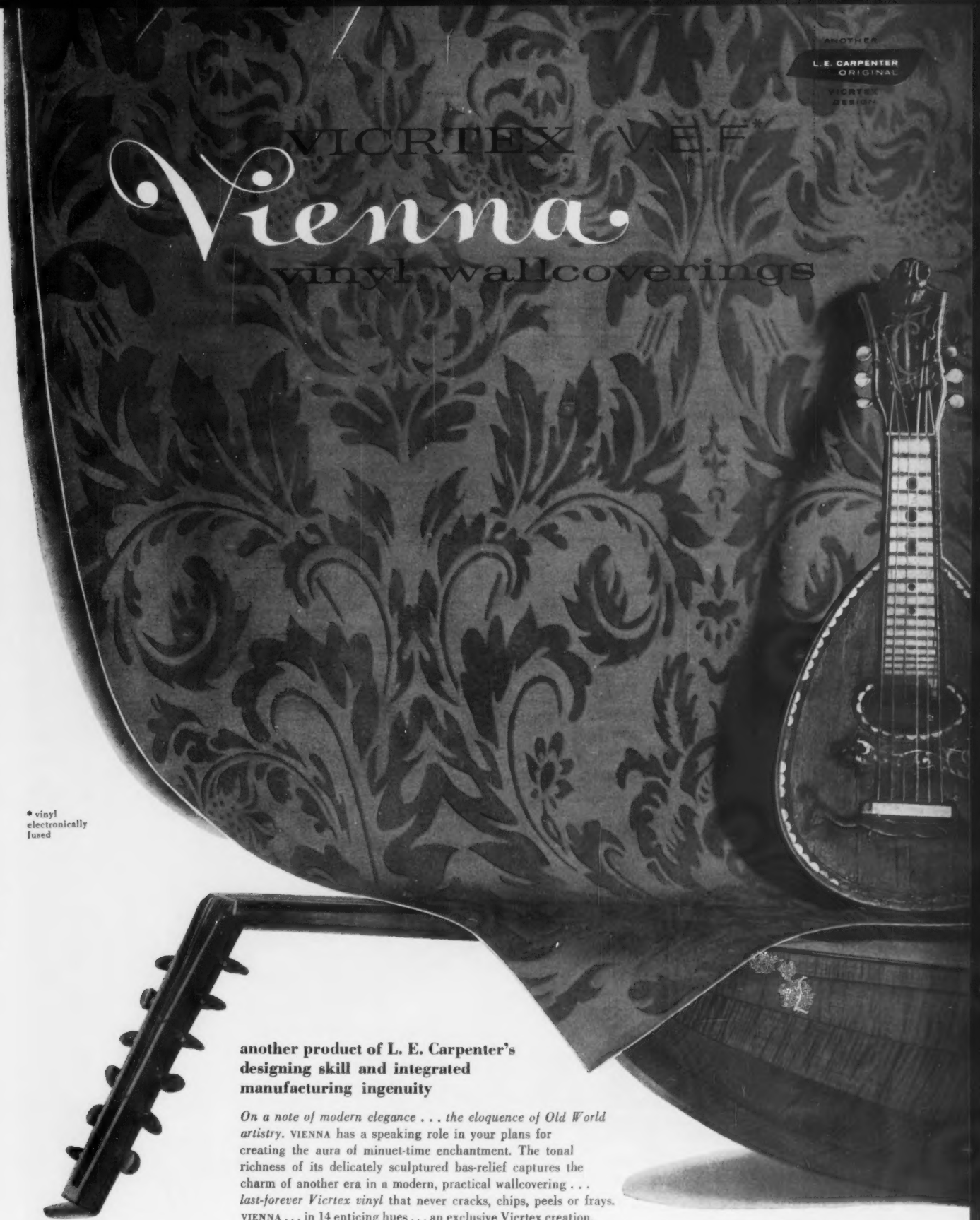
**Structural Engineering.** Nathan S. Glassman & Harry H. Graef, III. Department A, International Business Services, 1026 20 St., N.W., Washington 6, D.C., 1960. 96 pp., diagrams. $7.50

**The Visual Arts Today. Daedalus, Winter 1960 issue.** Edited by Gyorgy Kepes. American Academy of Arts & Sciences. Wesleyan University Press, 356 Washington St., Middletown, Conn., 1960. 268 pp., illus. $2.50 (paperbound)

**Climatological and Solar Data for India: To Design Buildings for Thermal Comfort.** T. N. Seshadri, K. R. Rao, M. R. Sharma, G. N. Sarma, Sharafat Ali. Office of Assistant Director of Information, Central Building Research Institute, Roorkee, U.P., India, 1960. 164 pp., tables, maps. Rs. 10

**The Art of Interior Design: A Text in the Aesthetics of Interior Design.** Victoria Kloss Ball. Macmillan Co., 60 Fifth Ave., New York 11, N. Y., 1960. 343 pp., illus. $8.50

**Art and Architecture in Belgium: 1600-1800.** H. Gerson and E. H. ter Kuile. Pelican History of Art Series. Penguin Books Inc., 3300 Clipper Mill Road, Baltimore 11, Md., 1960. 236 pp., 160 plates. $12.50




VICRTEX V.E.F.*

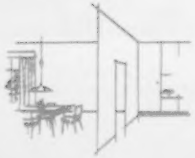
# Vienna

## vinyl wallcoverings

* vinyl electronically fused

**another product of L. E. Carpenter's designing skill and integrated manufacturing ingenuity**

*On a note of modern elegance . . . the eloquence of Old World artistry.* VIENNA has a speaking role in your plans for creating the aura of minuet-time enchantment. The tonal richness of its delicately sculptured bas-relief captures the charm of another era in a modern, practical wallcovering . . . *last-forever Vicrtex vinyl* that never cracks, chips, peels or frays. VIENNA . . . in 14 enticing hues . . . an exclusive Vicrtex creation. *This magnificent new motif is also available in matching patterns and color range, with smaller repeats:* CONTESSA.



*Write today for sample swatches, prices . . . and your copy of the colorful "Walls of Fame" brochure.*

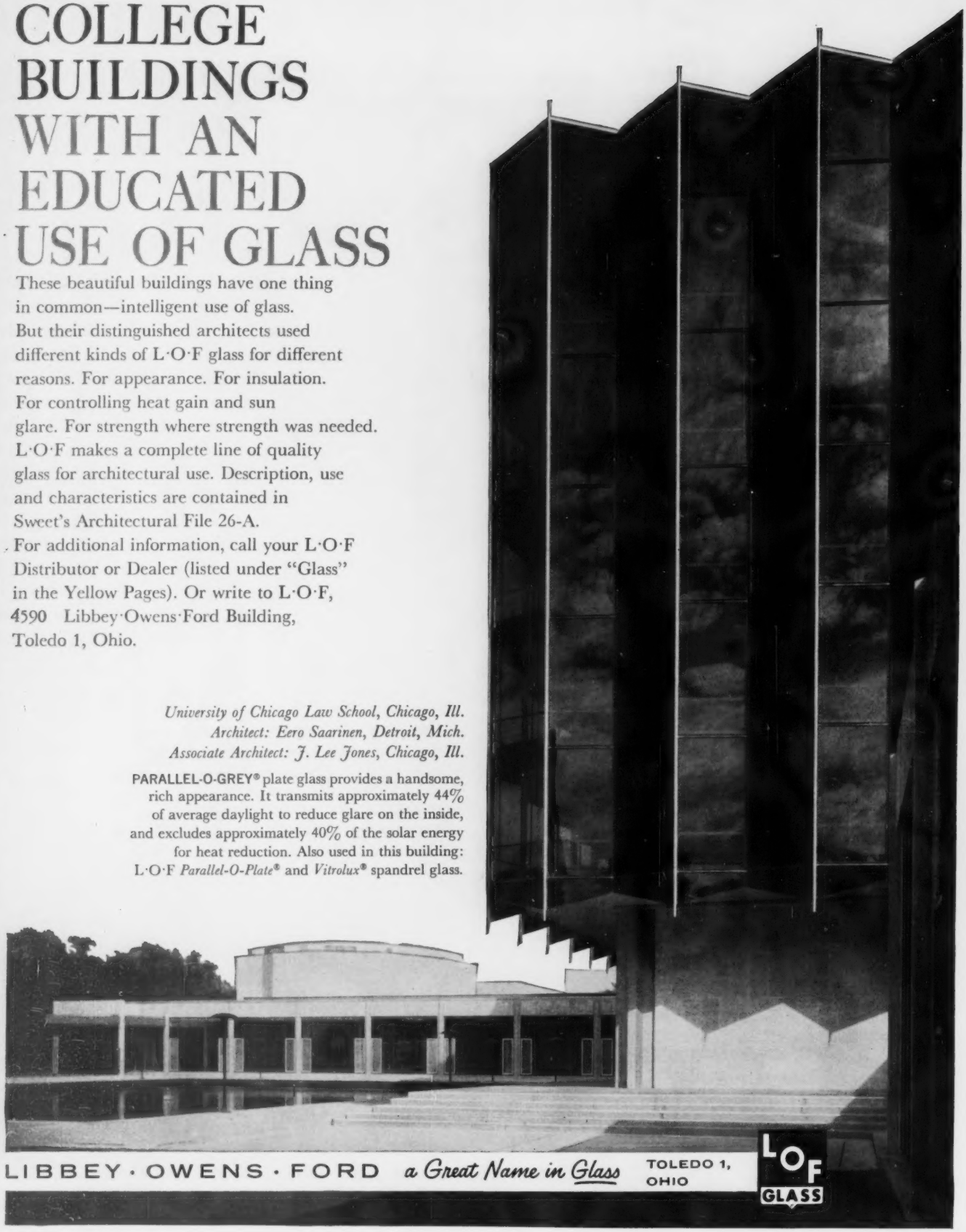
L. E. CARPENTER & COMPANY

**Empire State Bldg., New York 1 • LOngacre 4-0080 • Mills: Wharton, N. J.**

*Available in Canada:* Canadian Resins and Chemicals, Montreal and Toronto

# COLLEGE BUILDINGS WITH AN EDUCATED USE OF GLASS

These beautiful buildings have one thing in common—intelligent use of glass. But their distinguished architects used different kinds of L·O·F glass for different reasons. For appearance. For insulation. For controlling heat gain and sun glare. For strength where strength was needed. L·O·F makes a complete line of quality glass for architectural use. Description, use and characteristics are contained in Sweet's Architectural File 26-A. For additional information, call your L·O·F Distributor or Dealer (listed under "Glass" in the Yellow Pages). Or write to L·O·F, 4590 Libbey·Owens·Ford Building, Toledo 1, Ohio.



*University of Chicago Law School, Chicago, Ill.*
*Architect: Eero Saarinen, Detroit, Mich.*
*Associate Architect: J. Lee Jones, Chicago, Ill.*

**PARALLEL-O-GREY®** plate glass provides a handsome, rich appearance. It transmits approximately 44% of average daylight to reduce glare on the inside, and excludes approximately 40% of the solar energy for heat reduction. Also used in this building: L·O·F *Parallel-O-Plate®* and *Vitrolux®* spandrel glass.

LIBBEY · OWENS · FORD *a Great Name in Glass* TOLEDO 1, OHIO

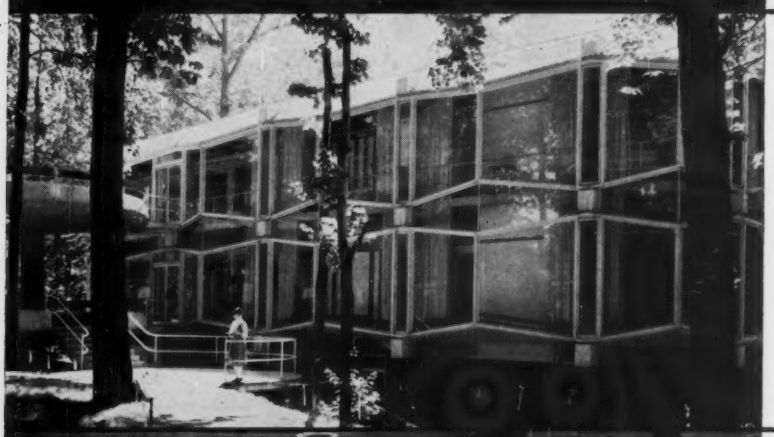
L·O·F GLASS

*Smith College Dormitory, Northampton, Mass.*
*Architect: Skidmore, Owings & Merrill, New York, N. Y.*

**SPANDRELS OF VITROLUX,** heat-tempered, polished plate glass with rich color fused to the back, add youthful beauty and cheerful character to this dormitory. *Vitrolux* is resistant to weathering, crazing and checking. Windows are glazed with L·O·F *Parallel-O-Plate.*

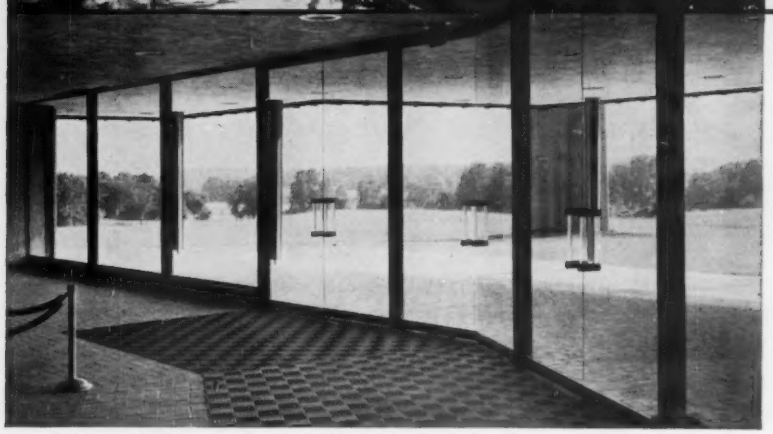
*Western Michigan University Library, Kalamazoo, Mich.*
*Architect: Ralph R. Calder, Detroit, Mich.*

**THERMOPANE®** insulating glass, made with L·O·F Heat Absorbing Plate and *Parallel-O-Plate,* insulates rooms from the weather. Reduces drafts near windows. Muffles outside noise. Heat Absorbing Plate subdues glare (transmits approximately 75% of average daylight), and excludes approximately 40% of the solar energy.



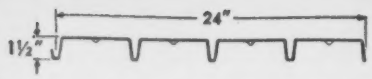
*Lake Erie College Student Commons Building, Painesville, Ohio*
*Architect: Victor F. Christ-Janer & Assoc., New Canaan, Conn.*

**L·O·F PARALLEL-O-PLATE** glass adds sparkle to this many-faceted, jewellike building. *Parallel-O-Plate* is twin ground for uniformity of thickness, parallelism and flatness of surfaces to provide more perfect reflections and maximum freedom from distortion.

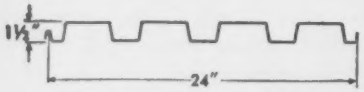


*Valparaiso University Student Chapel, Valparaiso, Ind.*
*Architect: Chas. Edward Stade & Assoc., Park Ridge, Ill.*

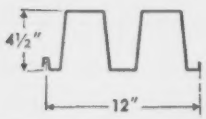
**THESE FRAME-FREE TUF-FLEX®** doors invite guests into the building. And they can withstand, with virtually no maintenance, all of the traffic they help create. *Tuf-flex* is 3 to 5 times tougher than regular plate glass of the same thickness.



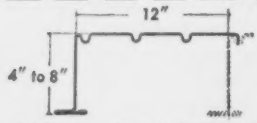

**A-DECK** — For purlin spacings not exceeding 8'4". Narrow ribs provide deck surface that supports the thinnest or softest types of insulation.



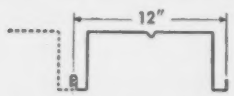

**B-DECK** — For spans to 10'0". Wide rib distributes metal for greater structural efficiency — gives higher section properties per pound of steel. Well suited for use as side wall panels.



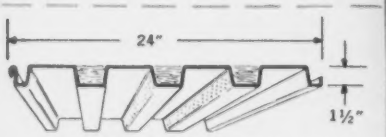

**C-DECK**—Carries normal roof loads over spans up to 24'0". Used extensively in canopies.



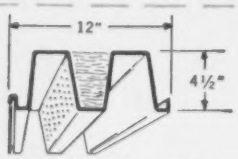

**T-STEEL** — New! Galvanized only. For clear spans to 32'0". Adaptable to acoustical and flush, luminous ceiling treatments. Provides superior diaphragm to resist seismic and wind loads.



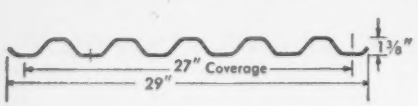

**H-DECK** — New! For simple spans to 20'0" — 3" and 4½" depths. Especially practical to cover walkways in shopping centers, schools, other installations.



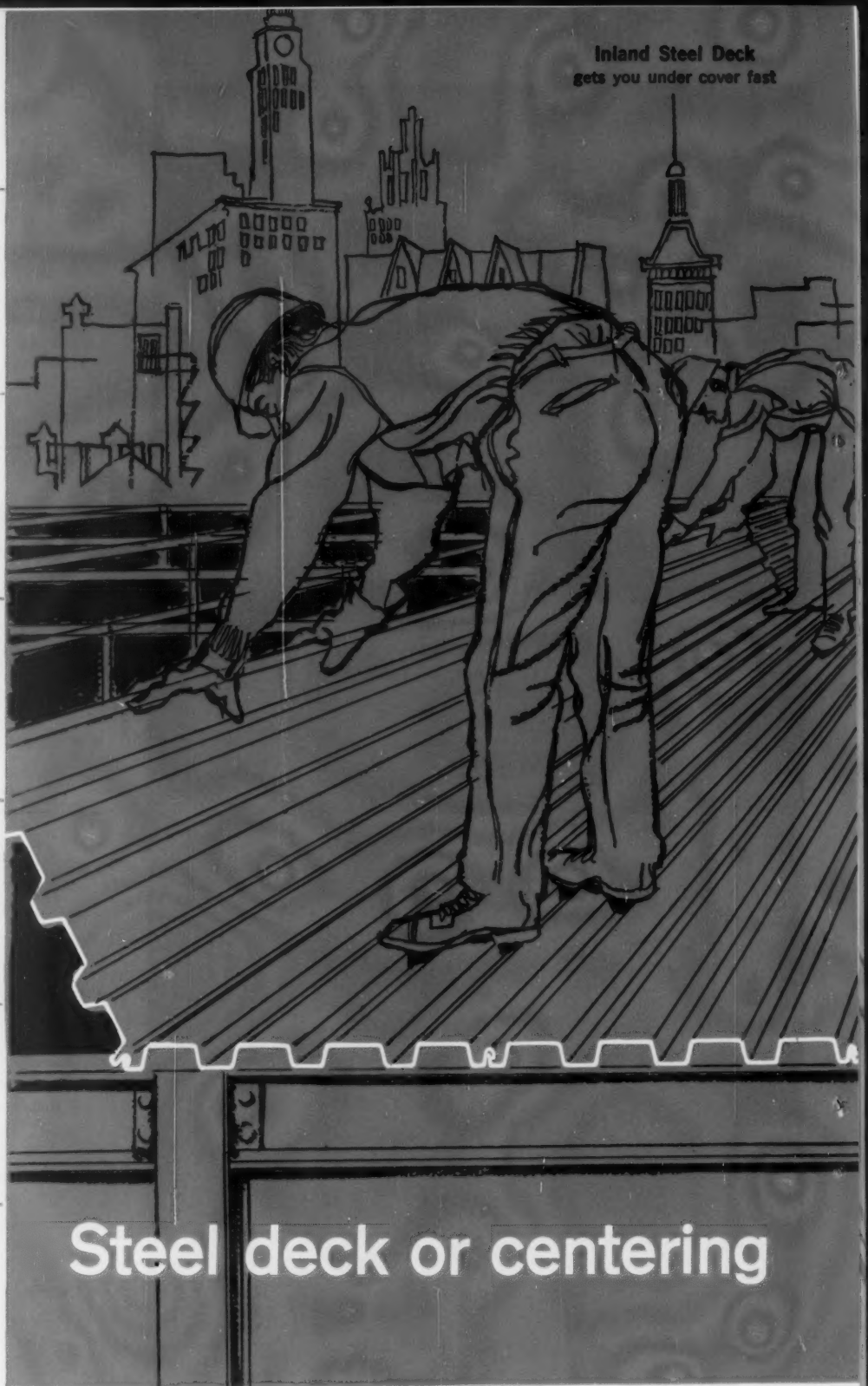

**B-ACOUSTIDECK** — Two-in-one panel combines steel roof deck with acoustical ceiling having Noise-Reduction Coefficient of .70. Used for spans to 10'0".




**C-ACOUSTIDECK** — Offers same Noise-Reduction Coefficient as B-Acoustideck. Can be used for spans to 24'0".




**RIBFORM** — High-tensile, galvanized steel form for concrete slabs over spans up to 8'0". Three types: Standard, Heavy-Duty, Super-Duty (shown).




# Steel deck or centering

Plant-expansion projects and new buildings of many types get under cover fast and economically, when you specify an Inland roof system.

Inland steel deck is easy to handle and weld in place — in any weather that a man can work. One panel provides over 56 sq. ft. of coverage. Large areas are quickly ready for roofing crews.

Types A, B, C, and H decks are Bonderized, then covered with a baked-enamel primer that resists on-the-job damage. One field coat of paint over the primer on these decks usually does the job of two coats on ordinary decks.

ATLANTA, BALTIMORE, BUFFALO, CHICAGO, CINCINNATI, CLEVELAND, DALLAS,

# . . . you name it, INLAND has it!

In concrete-over-steel construction, Inland Ribform supports wet concrete with minimum deflection. Rigid sheets are quickly and inexpensively attached to supports — in place, they provide a safe work platform for crews.

Write for catalogs 240, 241, and 245 — or see Sweet's sections 2c/Inl, 11a/In, and 2a/In for full information on Inland steel roof deck and permanent centering. Inland Steel Products Company has a force of trained sales engineers capable of giving you the benefit of diversified experience on specific problems. Write or call your nearest Inland office to have one of these men contact you.

Member of the INLAND Steel Family

ENGINEERED PRODUCTS DIVISION

**INLAND STEEL PRODUCTS COMPANY**

Dept. I, 4069 West Burnham Street
Milwaukee 1, Wisconsin

SP-8

DENVER, DETROIT, HOUSTON, KANSAS CITY, LOS ANGELES, MILWAUKEE, MINNEAPOLIS, NEW ORLEANS, NEW YORK, ST. LOUIS

## NOTICES

### *Name Changes*

KENNETH KASSLER and BURTON F. WEISBECKER, principals in firm of KASSLER & WEISBECKER, Architects-Site Planners, 18 Nassau St., Princeton, N.J. Formerly, office of KENNETH KASSLER.

COLIN LAIRD & JOHN GILLESPIE, Architects, N.E.M. House, 12 Abercromby St., Port-of-Spain, Trinidad, W.I. Formerly, office of COLIN LAIRD.

SEMINOFF & ASSOCIATES, Architects, 1300 N. Broadway, Oklahoma City 3, Okla. Formerly office of GEORGE SEMINOFF.

THOMAS, DRISCOLL & HUTTON, INC., Architects-Engineers, 20 E. Bay St., Savannah, Ga. Formerly, THOMAS HUTTON & ASSOCIATES.

### *New Firms*

BILL AKERMAN, Specifier, 12741 Hatteras St., North Hollywood, Calif.

ARTHUR D. BENJAMIN and PETER FLACK, principals in firm of BENJAMIN & FLACK, Consulting Engineers, 37 W. 39th St., New York 18, N.Y.

VAN CHRISTO ASSOCIATES, Interior Design Consultants, 330 Stuart St., at Berkeley, Boston 16, Mass.

WILLIAM D. MERRILL, KENNETH W. ROEHRIG, KENJI ONODERA and WESLEY C. KINDER, principals in firm of MERRILL, ROEHRIG, ONODERA & KINDER, Architects, Damon Bldg., Honolulu, Hawaii.

ROBERT JOSEPH PILC, Architect, 244 Fifth Ave., New York 1, N.Y.

CARL W. PIRSCHER and WILLIAM R. JARRATT, principals in firm of PIRSCHER & JARRATT, Architects, 23255 Woodward Ave., Ferndale, Mich. Formerly, CARL W. PIRSCHER & ASSOCIATES.

WAYMAN C. WING, Consulting Engineer, 411 Seventh Ave., New York 1, N.Y.

### *New Addresses*

CHARLES E. BROUDY, Architect, 2016 Walnut Street, Philadelphia 3, Pa.

WILLIAM L. CLARK, JR., Consulting Engineer, 2223 River Rd., Maumee, Ohio.

FRANK LANSKY, Architect, 167 S. Second St., Memphis 3, Tenn.

ROBERT TAGGART INC., Marine Research, 400 Arlington Blvd., Falls Church, Va.

CONSULTANTS FOR PRODUCT DESIGN, 1850 Westwood Blvd., Los Angeles 25, Calif.

### *New Partners, Associates*

FRANK J. WAEHLER, made an Associate in the firm of VOORHEES, WALKER, SMITH, SMITH & HAINES, New York.

### *Elections, Appointments*

MURRAY SEDGLEY, appointed head of construction, LOWELL TITUS, head of the civil department in design, and PAUL SEHNERT, named as head of the Chicago department of design at STANLEY ENGINEERING COMPANY, Ill., Iowa, and Liberia.

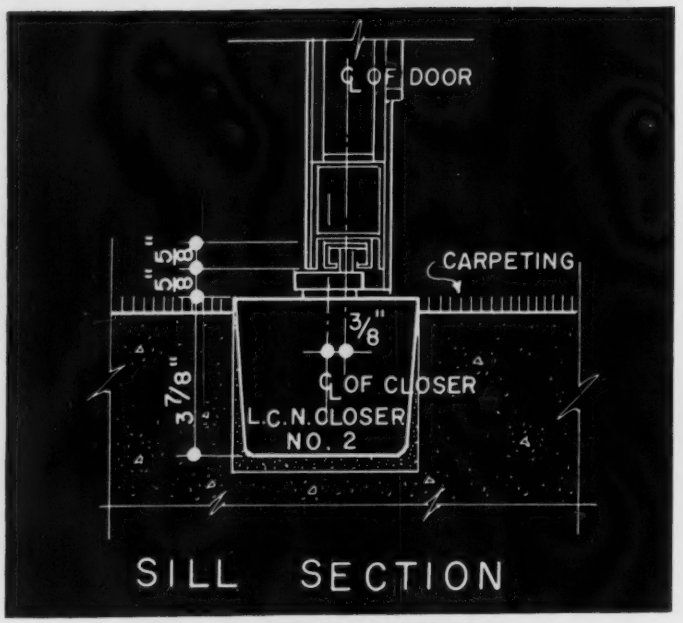
J. S. PETTITT, JR., appointed assistant chief draftsman of Architectural Department of ALBERT KAHN ASSOCIATED ARCHITECTS & ENGINEERS, INC., Detroit.

LAWRENCE E. HURD, appointed Mechanical Engineer, and MICHAEL STUART joins the staff at the Guam office of THOMAS J. DAVIS, INC., affiliate of ENGINEERING SERVICE CORPORATION, Los Angeles, Calif.

RAYMOND J. DETMERS and RICHARD R. KINGSCOTT, join the staff of A. M. KINNEY, INC., Consulting Engineers, Cincinnati, Ohio, as Project Engineers.

VITO V. CERAMI, appointed Senior Con-

*Continued on page 228*


**CONSTRUCTION DETAILS**

**for LCN Floor Type Door Closer, Shown on Opposite Page**

*The LCN Series 2-4-6 Closer's Main Points:*

1. Full rack-and-pinion, two-speed control of the door
2. Mechanism concealed; lever arm disappears under door
3. Door hung on regular butts, its weight carried independently of closer
4. Closer easily adjusted or serviced without taking door down
5. Installed with or without threshold; may be flush with threshold or with floor
6. Used with wood or metal doors and frames

*Complete Catalog on Request—No Obligation*
*or See Sweet's 1960, Sec. 18e/La*

**LCN CLOSERS, INC., PRINCETON, ILLINOIS**

Canada: Lift Lock Hardware Industries, Ltd., Peterborough, Ontario

Mandeville & Berge, *Architects & Engineers*

## MODERN DOOR CONTROL BY *LCN* · CLOSER CONCEALED IN FLOOR

*FIFTH AVENUE & UNION BRANCH, THE NATIONAL BANK OF COMMERCE OF SEATTLE, WASHINGTON*

LCN CLOSERS, INC., PRINCETON, ILLINOIS

*Construction Details on Opposite Page*

Wood has successfully warded off weather for centuries. Here, naturally durable or specially treated woods offer maximum resistance to the elements, and adapt beautifully to difficult terrain demands. Carl Graffunder, architect—Graffunder and Nagle.

*When durability is a design requirement*

# for new answers...look to WOOD

Homes of wood have been traditionally correct for good reason—wood construction wears well physically *and* emotionally, stands up with a minimum of maintenance. Joseph Esherick, architect.

Wind, water, wear and willful neglect stand ready to challenge the mettle of your best design efforts. But in wood you find a natural ally. Wood stands undisputed in its time-proven position as the one construction and finishing material that will withstand the buffeting of the elements—untarnished, uncorroded—actually mellowing with age. No other material offers such diversity of individual shapes and sizes in stock or such a favorable ratio of weight to strength. And what other material is so workable, so amenable to expressive design? For more information on designing with wood, write:

**NATIONAL LUMBER MANUFACTURERS ASSOCIATION**
*Wood Information Center, 1319 18th St., N. W., Washington 6, D. C.*

nlma

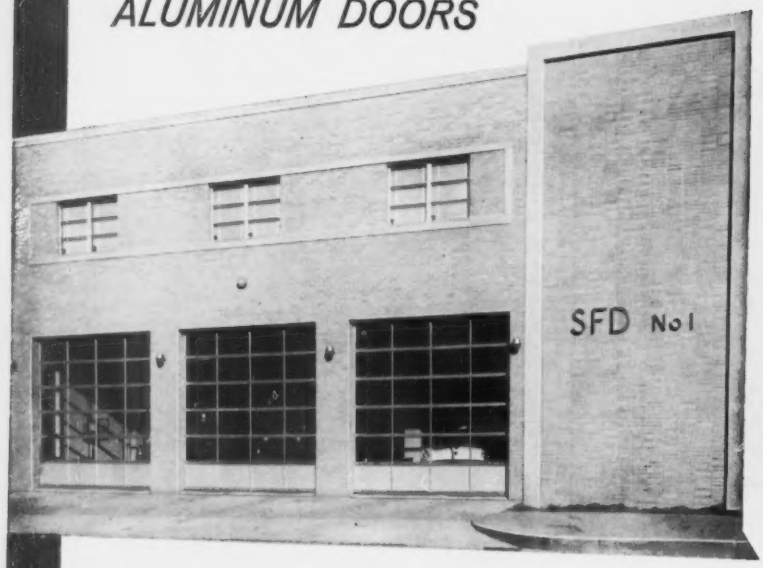
*for freedom of design, look to* **wood**

Wood's wide range of stock components and portability make possible *economical* construction by ordinary carpenters of even the most advanced designs. Robert Ratcliff, architect.

*Springfield Illinois Fire Department Specifies*

**RAYNOR**

*ALUMINUM DOORS*




*ARCHITECT* — Phillip Trutter and Associates
*CONTRACTOR* — Franklin Cress
*DOORS INSTALLED BY* — Barker Lubin Co., Springfield, Illinois

The Mark of Quality

Maintenance free beauty . . . quality controlled construction . . . adaptation to low headroom, are but a few of the outstanding Raynor features that met and surpassed the overhead type door specifications for the Springfield Fire Department shown above. Every Raynor Door is designed and engineered to meet and surpass the exacting specification requirements of todays modern architectural design, *your assurance* that "when you specify Raynor, you specify the finest."

Contact your nearest Raynor Distributor and request the NEW RAYNOR ENGINEERING MANUAL, it will provide you with every necessary detail for the complete line of Raynor Overhead Type Doors & electronic operators.

**RAYNOR MFG. CO.**

Dixon, Illinois Hammonton, New Jersey

SEE OUR CATALOG IN SWEET'S

*Builders of A Complete Line of Sectional Overhead Doors*

Find Your RAYNOR DISTRIBUTOR In The Yellow Pages

*Continued from page 224*

sultant in firm of MICHAEL J. KODARAS, Acoustical Consultants, New York, N.Y.

BEN W. YOUNG, made head of the Dallas, Texas, office of T. Y. LIN & ASSOCIATES, Consulting Structural Engineers, Van Nuys, Calif.

THEODORE E. CASSELMAN, JR., and WILBUR S. ROBERTS, JR., elected vice-presidents at STONE & WEBSTER ENGINEERING CORPORATION, Boston and New York.

### *Name Change Correction*

VALDEMAR H. PAULSEN, Architect, 921 Bergen Ave., Jersey City 6, N.J. Formerly, ZIEGLER, CHILDS & PAULSEN. FREDERICK W. MENNE and RICHARD B. RIVARDO, named as Partners.

### *Design Service Formed*

PHILIP J. DECAROLIS, occupying facilities at Sukon Inc., 917 Third Ave., New York 22, N.Y., will operate an exhibition and industrial design service specializing in trade show exhibits, exhibition architecture, and will also include the design of commercial and institutional interiors, and related three-dimensional displays.

### *P/A Congratulates . . .*

JOSEPH B. ELLIOTT, named president and general manager of the York Division of BORG-WARNER CORPORATION, succeeding HENRY M. HAASE, vice-president, who is being transferred to the company's Chicago headquarters.

J. R. BRADLEY, named a design consultant for GENERAL ELECTRIC Textolite laminated plastics.

GRAHAM J. MORGAN, elected President of the UNITED STATES GYPSUM COMPANY, succeeding OLIVER M. KNODE who is retiring.

JOSEPH B. ELLIOTT, made President and General Manager of the New York Division of BORG-WARNER CORPORATION.

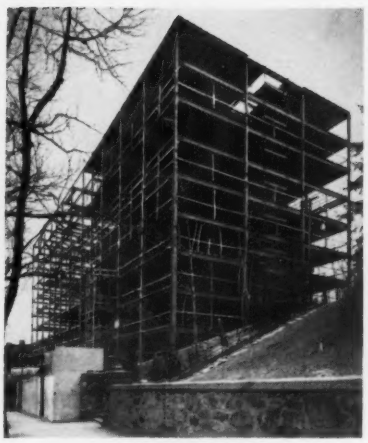
**WHEN YOU CHANGE YOUR ADDRESS**

Please report both new and old addresses directly to P/A five weeks before you move. The Post Office will not forward your magazine to the new address unless you pay extra postage. Avoid this needless expense by notifying us five weeks in advance.

**PROGRESSIVE ARCHITECTURE**
**Circulation Department**
**430 Park Avenue, New York 22, N. Y.**

*Architect for the 10-story apartment at 1600 Beacon St., Brookline, Mass., was Arthur G. Manaselian. General Contractor: Vappi Co., Inc.; structural engineers: Shannon and Doherty; steel fabricator: West End Iron Works.*

# Slabform on steel joists provides maximum lateral restraint in 10-story apartment



By using Slabform*, Bethlehem's solid steel centering, fastened firmly to steel joists, the architect obtained a construction with maximum lateral restraint in this 10-story, Brookline, Mass., apartment house. When concrete floor slabs were poured, the entire structure was braced and stiffened because of the integration between steel beams, joists, and Slabform.

There were cost savings, too, in using this construction. Bethlehem Slabform requires less concrete than when flexible centerings are used. Clean-up time is reduced. And, most important, solid centerings prevent loss of moisture during curing, resulting in a stronger slab.

Bethlehem supplied the structural steel, joists, and Slabform for the apartment. We make a full line of "S" and "L" series joists, and our Slabform comes in five gages in all standard lengths.

**Registered*

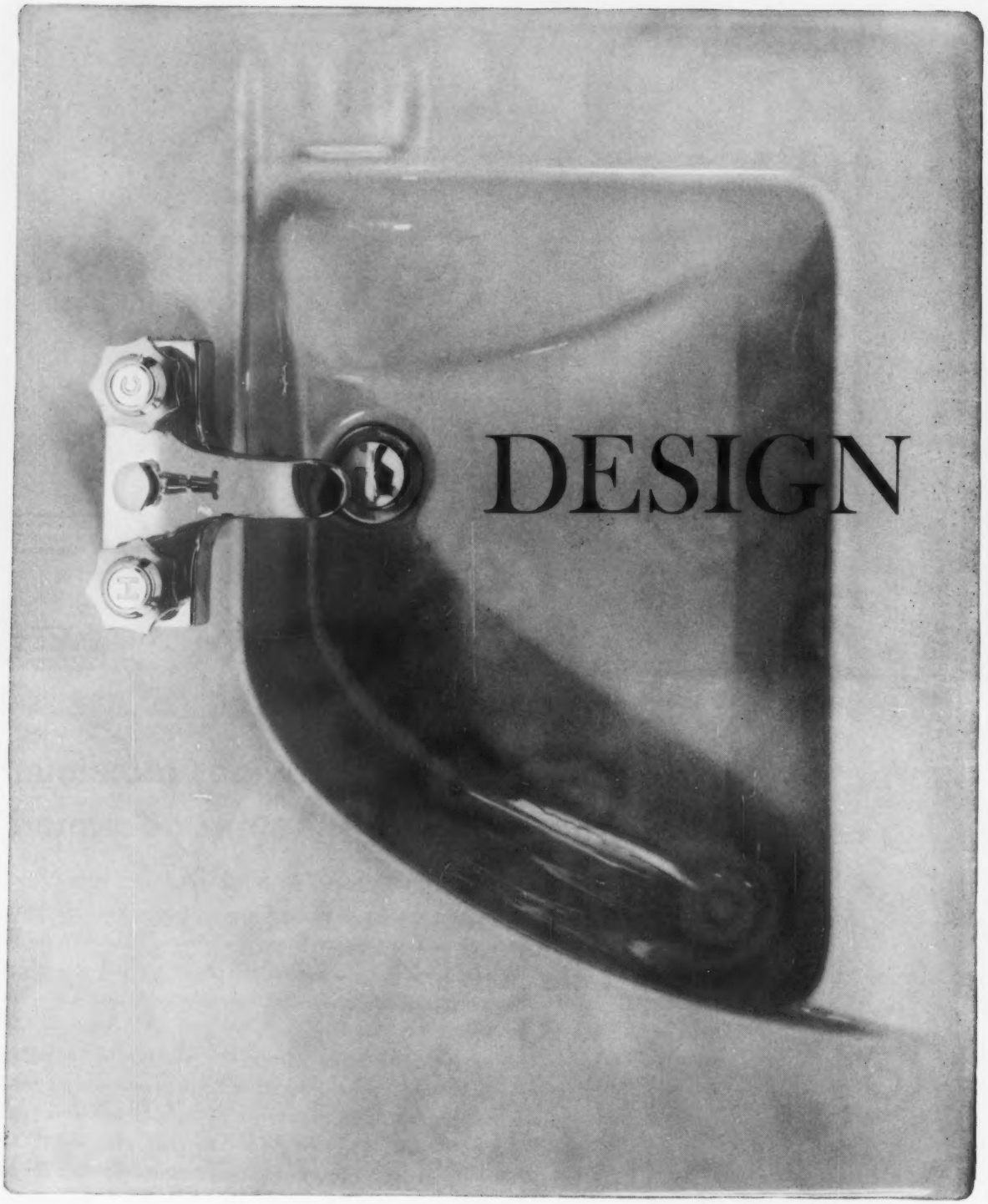
Steel

*For strength*
*. . . economy*
*. . . versatility*

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.
*Export Distributor:* Bethlehem Steel Export Corporation

**BETHLEHEM STEEL**

BETHLEHEM STEEL




A.I.A. File Number 29-H
(July, 1960)

Here is a new lavatory that is beautiful, yet functional. Note the wide side ledge that gives the space of a counter top for placing watches, eyeglasses, pocketbooks and other articles. The deep, roomy bowl

# WITH A PURPOSE

has both anti-splash rim and hidden front overflow. The Sherrilyn lavatory is genuine vitreous china, 24" x 20", in color or white. Here is design with a purpose that is typical of all American-Standard products. AMERICAN-STANDARD PLUMBING AND HEATING DIVISION, 40 West 40th Street, New York 18, N. Y.

American-Standard and Standard® are trademarks of American Radiator & Standard Sanitary Corporation

AMERICAN-Standard
PLUMBING AND HEATING DIVISION

## *SITUATIONS OPEN*

ARCHITECT OR DRAFTSMAN—Capable young architect or draftsman w.th well rounded training and experience, capable of working with others or handling complete job. Small office. Friendly associates. Varied and interesting work. Nice community. Beautiful country. Send resume, snap shot, sample drawings and present salary. Oberwarth & Livingston, Architects, 323 Shelby Street, Frankfort, Kentucky.

ARCHITECTURAL DESIGN DRAFTSMEN—With a minimum of two years experience in preliminary and working drawings. There are presently two openings with this well-known Rochester, New York, firm, whose work has included a consistent volume and variety of projects. Send resume to Barrows, Parks, Morin, Hall & Brennan, 133 East Avenue, Rochester 4, New York.

ARCHITECTURAL SENIOR DRAFTSMEN—Capable of developing studies and preliminary sketches into final working drawings and details. No other need apply. Kansas City location, excellent working conditions. $8,000 year and up, depending on ability to produce. Give all informat on regards training and experience. Box 980 PROGRESSIVE ARCHITECTURE.

DEPARTMENT HEAD—The University of Colorado has an opening for the Headship of the Department of Architecture and Architectural Engineering. Please address inquires and enclose personal data to: Professor C. A. Briggs, Chairman Selection Committee, 212 Service Building, University of Colorado, Boulder, Colorado.

EXECUTIVE DIRECTOR—Landscape Architectural office has opening for person thoroughly experienced in all phases of office procedure. Must have good organizational and managerial ability including handling negotiations and contracts. Practice consists of landscape design, urban design, and planning. Salary open. Submit resume and references to Sasaki, Walker and Associates, 133 Mt. Auburn Street, Watertown 72, Massachusetts.

GRADUATE ARCHITECTS & ENGINEERS—This office seeks young men only who are graduate architects or engineers who wish to gain a comprehensive experience leading to a license and training for future individual practice. For those who qualify, there will be immediate training in all phases of office practice, then broad experience to which he is best suited. Then project leadership. Eventually office management. Men desired are for building design, heating and ventilating design, electrical design and distribution. Location: Pennsylvania. If you are interested, please give full details on experience, starting salary and age. Write to Box 975 PROGRESSIVE ARCHITECTURE.

### Advertising Rates

Standard charge for each unit is Five Dollars, with a maximum of 50 words. In counting words, your complete address (any address) counts as five words, a box number as three words. Two units may be purchased for ten dollars, with a maximum of 100 words. Check or money order should accompany advertisement and be mailed to Jobs and Men, c/o Progressive Architecture, 430 Park Avenue, New York 22, N. Y. Insertions will be accepted not later than the 1st of the month preceding month of publication. Box number replies should be addressed as noted above with the box number placed in lower left hand corner of envelope.

## *SITUATIONS WANTED*

ARCHITECT—All-around-man, desires connection with an established firm. Experienced in practice for self before World War II; since then, in Government, working on medium cost buildings and in an administrative capacity. Detailed resume will be mailed upon request. Box 981 PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL & STRUCTURAL DESIGNER—Graduate Architect, married, 28. 5 years experience: architectural design, steel and concrete design, construction supervision, estimating, chief draftsman. Thorough knowlege of commercial and industrial design. Desires responsible position with future in progressive architectural or engineering firm within 150 miles N. Y. City. Box 976 PROGRESSIVE ARCHITECTURE.

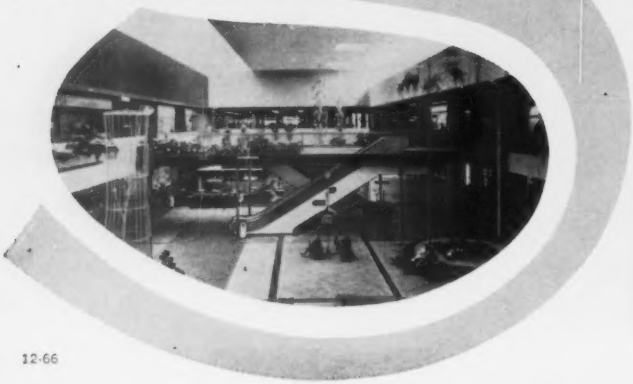
*Continued on page 236*

In the world's largest single-structure shopping center, the 84-acre Southdale Center in Minneapolis, you'll find ALTEC Engineered Sound Systems. You'll find ALTEC Systems too in Detroit's ultra-modern Ford Memorial Auditorium; in the International Amphitheater in Chicago; in schools, stadiums, churches; in government, commercial and industrial buildings all over the world.

That's because ALTEC sound systems, like all ALTEC products, are designed for dependable service under all conditions, for long life, and for ease of installation and service.

And it's because of the hundreds of ALTEC engineer-consultant-contractors who are ready to serve you with

**SOUTHDALE SHOPPING CENTER ARCHITECT* SPECIFIED ALTEC**



more than 100 different ALTEC commercial sound components and/or systems designed to your specifications. Before you specify commercial sound equipment, you'll want to talk to your nearest ALTEC contractor. For his address look in the Yellow Pages of your Telephone Directory or write to ALTEC at the address below.

See Altec's product listing in Sweet's Catalog Architectural File (17e/AL), 1960 Edition.

**Victor Gruen and Associates, Los Angeles*

ALTEC LANSING CORP., Dept. PA-3D
1515 S. Manchester Ave., Anaheim, Calif.
161 Sixth Ave., New York 13, New York
a subsidiary of Ling-Altec Electronics, Inc.

12-66

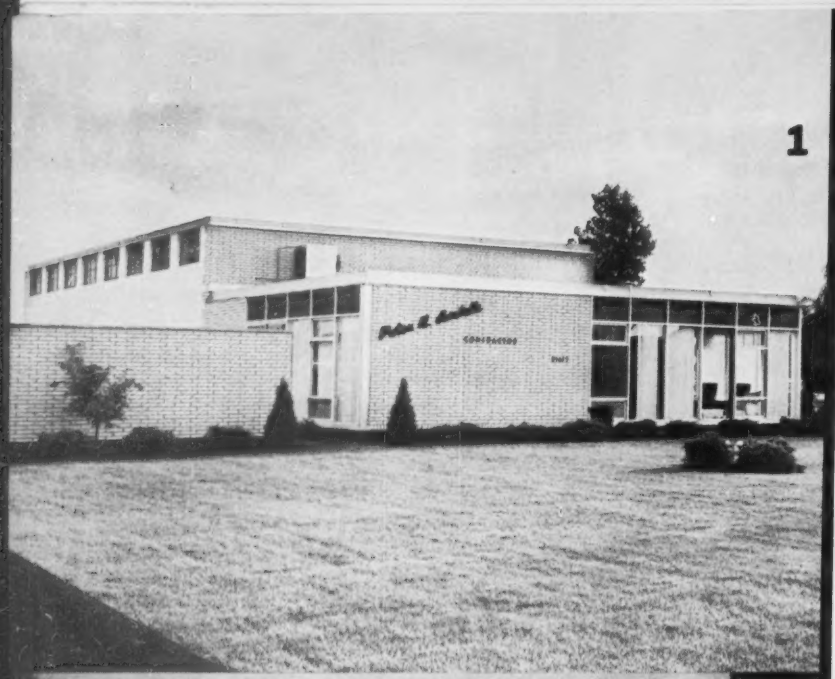
Washtenaw Abstract Co., Ann Arbor, Mich.
Architects: James H. Livingston and Associates, Ann Arbor, Mich.
Acoustical Contractor: Franklyn-Clyde, Inc., Detroit, Mich.

# *First Impression*

First impressions can affect client relationships. The dignified, contemporary decor of this reception room immediately creates a feeling of alert management with excellent taste. Baldwin-Ehret-Hill STYLTONE Fissured Mineral Tile is an important part of the setting to both eyes and ears. When designing distinctive interiors, give a thought to B-E-H STYLTONE. See Sweet's for full information.

BEH **BALDWIN-EHRET-HILL**
INCORPORATED

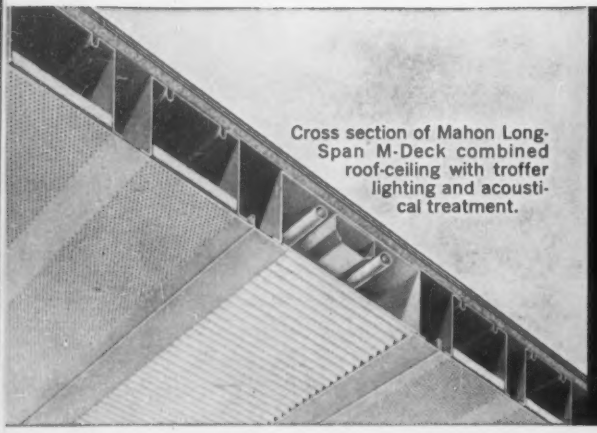
Acoustical Products and Building Insulations
2103 Breunig Avenue Trenton 2, New Jersey



1

2

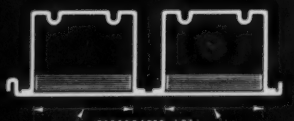
# MAHON MULTI-USE LONG-SPAN M-DECKS...



Cross section of Mahon Long-Span M-Deck combined roof-ceiling with troffer lighting and acoustical treatment.

## MAHON LONG-SPAN M-DECK SECTIONS

SECTION M1-OB
OPEN BEAM DEPTH 3", 4½", 6" or 7½"



PERFORATED AREA

SECTION M2SR (Acoustical)
CEL-BEAM DEPTH 1½", 3", 4½", 6 or 7½"

A NEW SECTION M1-OB (Troffer)
CEL-BEAM DEPTH 4½", 6 or 7½"

These are the standard M-Deck types now in manufacture by Mahon. Special-form sections can also be supplied.

# . . . give you big structural advantages— even in small-building construction

Mahon Long-Span M-Decks furnish architects and engineers with roof sections of functional versatility that are ideal for any project, any budget—big or small. These steel sections provide a combined roof-deck system **and** finished ceiling that means real savings in specifying, erecting and service. Long-Span (truss-to-truss or wall-to-wall) M-Decks, quality made by Mahon, have a high strength-to-weight ratio for use as structural members and are supplied in metal gages and gage combinations for either flat or beamed ceilings. To suit your particular need, M-Decks are also available with or without recessed troffer lighting or acoustical treatment and for use as air-conducting or air-diffusing cells. Get the full story on M-Decks from your local Mahon representative, Sweet's Files or write for Catalog LSD-60.

**1** Mahon Long-Span M-Deck was meaningfully used in this "twin" facility at Livonia, Michigan. For the offices of contracting firm, Peter H. Acitelli, Inc., with its . . .

**2** . . . attractive reception area, Mahon Long-Span M-Deck was used as structural members to span wall-to-wall, as a roof-deck system and also served as a . . .

**3** . . . finished acoustical ceiling in offices—flat ceilings in shops of the R. V. Tool Co. as well. Architects: Wakely-Kushner Associates, St. Clair Shores, Michigan.

**MAHON BUILDING PRODUCTS**

- Aluminum or Steel Curtain Walls (in natural or colored metals)
- Rolling Steel Doors (Standard or Underwriters' labeled)
- Metalclad Fire Walls (Underwriters' rated)
- M-Floors (Steel Cellular Sub-Floors)
- Long Span M-Deck (Cellular or Open Beam)
- Steel Roof Deck
- Acoustical and Troffer Forms
- Acoustical Metal Walls, Partitions and Roof Decks
- Permanent Concrete Floor Forms

**CONSTRUCTION SERVICES**

- Structural Steel-Fabrication and Erection
- Steel Fabrication-Weldments
- Geodesic Domes-Fabrication and Erection

Steel — *for strength . . . economy . . . versatility*

**THE R. C. MAHON COMPANY**

*Detroit 34, Michigan*

Manufacturing Plants—Detroit, Michigan and Torrance, California.
Sales-Engineering Offices in Detroit, New York, Chicago, Torrance and San Francisco.
Representatives in all principal cities.

*Speeding American Construction with Metal Building Products, Fabricated Equipment and Erection Services*

# MAHON

*Continued from page 232*

MECHANICAL ENGINEER—Registered. 20 years experience air conditioning, heating, ventilating and plumbing. 12 years consulting engineer. Capable taking charge mechanical section from preliminary estimate to final inspection. Experiences includes high velocity, induction, absorption, steam turbine drive, and the various conventional systems, in all types of buildings including hospitals, office buildings, laboratories and special or complicated buildings and/or designs. Designs in private practice included Air Force, Navy, U. S. Engineers, General Service Administration and other government work. Desire permanent work with architect or consulting engineer. Resume on request. State salary. Box 977 PROGRESSIVE ARCHITECTURE.

QUALIFIED ENGINEER—Seeks position as Architect's Resident Representative (Clerk of The Works). Any type project. Fair Spanish, French. Write air mail to: Engineer Box 42 Rio Piedras, Puerto Rico.

REGISTERED ARCHITECT—(Written examination) age 35, Bach. of Arch. Degree, 10 years experience in leading architects' offices. Desires permanent association or partnership in modern office. Willing to invest in partial or major firm interest and will consider location anywhere in U.S. Resume and photo on request. Box 978 PROGRESSIVE ARCHITECTURE.

SENIOR STRUCTURAL ENGINEER—With thorough supervisory experience with leading engineering and construction firms. Large industrials, power plants, waterfront structures, dams, airfields, bridges, etc. Excellent estimator and spec. writer. Sound client contact and negotiating experience. Desire position with architectural, consulting or industrial firm. Box 979 PROGRESSIVE ARCHITECTURE.

## *MISCELLANEOUS*

ARCHITECTURAL & DESIGN PERSONNEL AGENCY—A personalized placement service for top-level architects, designers, engineers, draftsmen, estimators and interior designers; selective contacts arranged in a confidential and professional manner. Interviews by appointment. 58 Park Avenue, New York. MUrray Hill 3-2523.

ARCHITECTURAL RENDERING—Young, experienced artist in tempera, pastels, pencils, etc., but preference for ink or various papers and cloths. Have done renderings for presentation and publication. Low rates. Write: Box 4125, Chevy Chase 15, Maryland.

BUY TOLO—precision metals castings for your scale models—many items in stock—any component can be made—any scale—any color—any quality. Write to: TOLO INDUSTRIES, 30 E. 21st St., New York 10, N. Y. Tel. GR 5-0194.

CAREER BUILDERS-RUTH FORREST — Since 1947 a Personnel Agency specializing in Architectural, Interior, and Industrial Designers; all Home Furnishings and related personnel. Trainees to top executives. 35 West 53rd Street, New York 19, PLaza 7-6385.

HELEN HUTCHENS PERSONNEL AGENCY—Specialist Architectural, Industrial, Interior, Design; Decorative Arts and Trades; Home Furnishing Field, Architects, Designers, Draftsmen, Administrative Personnel, Interviews by appointment. 767 Lexington Ave., New York 21, N. Y. TE 8-3070.

INTERIOR DECORATION HOME STUDY—Announcing new home study course in Interior Decoration. For professional or personal use. Fine field for men and women. Practical basic training. Approved supervised method. Low tuition. Easy payments. Free booklet. Chicago School of Interior Decoration, 835 Diversey Parkway, Dept. 3046, Chicago 14, Ill.

PASS STATE BOARD—Use newest, best workbook and data sheets "STRUCTURAL ENGINEERING" by Graeff and Glassman, 96 p. of practical material. 26 problems actually solved. Most concise aid devised to help prepare and pass. Used at U. of Va. courses. Good for all engineer and architects offices. $7.50 ppd. Write: International Publications, #20 Ninth St., N.E., Washington 2, D. C.

AGITAIR® Decoraire

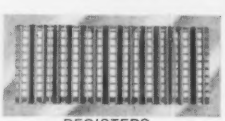
EXTRUDED ALUMINUM
REGISTERS . . . GRILLES

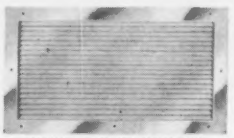
FOR SHEER ARCHITECTURAL BEAUTY AND EFFICIENCY

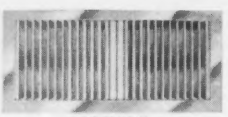
Whether you use one foot of DECORAIRE or a thousand foot run or more, you can be sure that these extruded aluminum grilles or registers will give maximum performance to assure complete users satisfaction.

DECORAIRE incorporates desirable practical features . . . APPEARANCE . . . PERFORMANCE . . . VERSATILITY to meet the exacting requirements of architects, engineers and contractors.

ALSO A COMPLETE LINE OF REGISTERS – GRILLES


REGISTERS


SIGHT TIGHT GRILLES


GRILLES

To meet every requirement of the architect and designer, there is also available AGITAIR Registers and Grilles in a wide range of sizes and styles.

Ask for catalog R-G-100.

AIR DEVICES INC., 185 MADISON AVE., NEW YORK 16, N. Y.
BETTER PRODUCTS FOR AIR DISTRIBUTION • AIR CLEANING • AIR EXHAUST

# FACE for the FUTURE

Undergraduate Library, *University of South Carolina, Columbia*

Architects-Engineers: *Lyles, Bissett, Carlisle & Wolff · Columbia*

Associate Architect: *Edward D. Stone*

General Contractor: *John C. Heslep · Columbia*

Material: *White Georgia Marble*

*How often it is that yesterday's beauty is today's sad cliche, while much of today's work is doomed tomorrow.*

*Marble—the first material of architectural art—has only a future, never a past. Its beauty is ageless. Buildings clad in its quiet elegance wear a natural distinction that will be as eloquent tomorrow as it is today.*

*Producers of more than thirty varieties of marble and limestone*

The GEORGIA MARBLE CO.
REG. U. S. PAT. OFF.
11 Pryor Street, S.W. • Atlanta 3, Georgia

DIVISIONS: Structural Division, Nelson, Ga.; Calcium Products Division, Tate, Ga.; Alabama Limestone Co., Russellville, Ala.; Green Mountain Marble, West Rutland, Vt.; Tennessee Marble, Knoxville, Tenn.; Alberene Stone, Schuyler, Va.; Willingham-Little Stone, Atlanta, Ga.

# WHO BUYS "HALF-A-DOOR"?

Nobody does, intentionally. But, any industrial door worth having is and MUST be part of a "package". And, that "package" must include a worthwhile guarantee and available after-service to keep that door in tip-top working condition through the many years that a good door will last.

Anybody who settles for less is getting only "half-a-door". And the fact that it had a bargain-counter price tag on it is no comfort when the door is out of commission (perhaps through a truck backing into it) and the owner has an emergency on his hands until the door is fixed.

We know, because our dealers get plenty of calls to service such doors and, sometimes, to replace the complete installation because the owner simply can't take it any more.

The answer, of course, is to buy doors ONLY from a known company with an established product backed by a real guarantee and complete service facilities. Then, you know you're going to be happy.

If you choose Crawford, you can get even more—you can get **PREVENTIVE MAINTENANCE SERVICE** which, like the lubrication of your car, stops certain kinds of trouble before it has a chance to happen.

And, you can buy this **P.M.S.** on contract so that it is automatic, which is a good deal for you because your doors are looked after *by professionals* ALL the time. **P.M.S.** covers your door operators, too.

Your local Crawford Door Dealer, listed in both the White and the Yellow Pages, will be glad to tell you more. Or, drop us a line here at Industrial Door Headquarters. Crawford Door Company, 20263-4 Hoover Road, Detroit 5, Michigan.

**Crawford**

**INDUSTRIAL DOORS and DOOR OPERATORS**

*Quality and Service for over 30 Years*

# ELAFLOR*

STRONG, LIGHTWEIGHT, RIGID ELEVATED ALUMINUM FLOORING **FOR COMPUTER ROOM USE**

Panels of extruded aluminum construction feature strength and low weight. Combination of pedestals, special extruded aluminum stringers and lateral braces insures a firm and rigid substructure.

Cut-outs can be made anywhere that cable or duct passage is required. All panels easily removed for underfloor inspection and maintenance.

In standard modular units with the floor covering of your choice.

*Pat. App. For

**WRITE FOR FREE LITERATURE AND SPECIFICATIONS**

**LISKEY ALUMINUM, INC.**

**Friendship International Airport, Box 506, Glen Burnie, Md.**

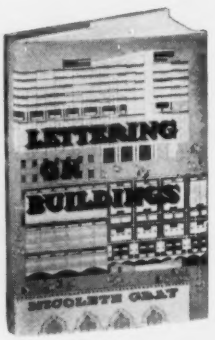
---

*Another New Reinhold Book for Architects . . .*

# LETTERING ON BUILDINGS

*By NICOLETE GRAY*

THIS EXCEPTIONAL BOOK deals with lettering as applied to all kinds of buildings. The author, an internationally acknowledged authority on the history of letter forms, clearly shows in this timely and extensive study the relationship between lettering and architecture itself. In this new approach to the subject she examines and illustrates the history and development of letter forms from Roman times to our own day. This leads to an outline of a comprehensive theory of lettering which, as a starting point, illuminates a new way of looking at problems and possibilities for the present and the future. Illustrations throw light on many existing 19th and 20th century examples of all kinds of lettering *in situ* and demonstrate with the accompanying text how present-day architects and designers can successfully tackle the task of integrating lettering on and in many kinds of buildings.




*192 pages*
*270 illustrations*
*5¾ x 9*
*$7.50*

*Order Now from*

**REINHOLD PUBLISHING CORPORATION**

*Dept. M-685, 430 Park Avenue, New York 22, N. Y.*

# hpi means quality

## HARDWOOD PLYWOOD PANELING

The hpi seal guarantees that the plywood you specify has met the rigid testing and inspection of the Hardwood Plywood Institute—30% more exacting than Commercial Standard.

CERTIFIED AMERICAN QUALITY • HARDWOOD PLYWOOD INSTITUTE •

hpi

For more information about hardwood plywood or the Institute, write:

**HARDWOOD PLYWOOD INSTITUTE**

2310 South Walter Reed Drive, Arlington 6, Virginia

---

**ARCHITECTURAL ENGINEERING**

**A Practical Course (HOME STUDY) by Mail Only**

Prepares Architects and Draftsmen for structural portion of

**STATE BOARD EXAMINATIONS**

For many this is the most difficult section of the examinations. Qualifies for designing structures in wood, concrete or steel. Successfully conducted for the past twenty-two years. Our complete Structural Engineering course well known for forty-six years.

*Literature without obligation—write TODAY*

**WILSON ENGINEERING CORPORATION**

College House Offices Harvard Square

CAMBRIDGE, MASSACHUSETTS, U. S. A.

---

**BUILDING CHECK LIST**

**by Ben John Small**

The first complete check list of building procedure ever available. Boils down the entire checking process into 74 categories —ready to use as the basis of both preliminary and final specifications. Also includes a resume of the A.I.A. general conditions and pitfalls to avoid in writing specifications. 158 pages, 6½ x 8½. $3.50

***Send for a copy on approval***

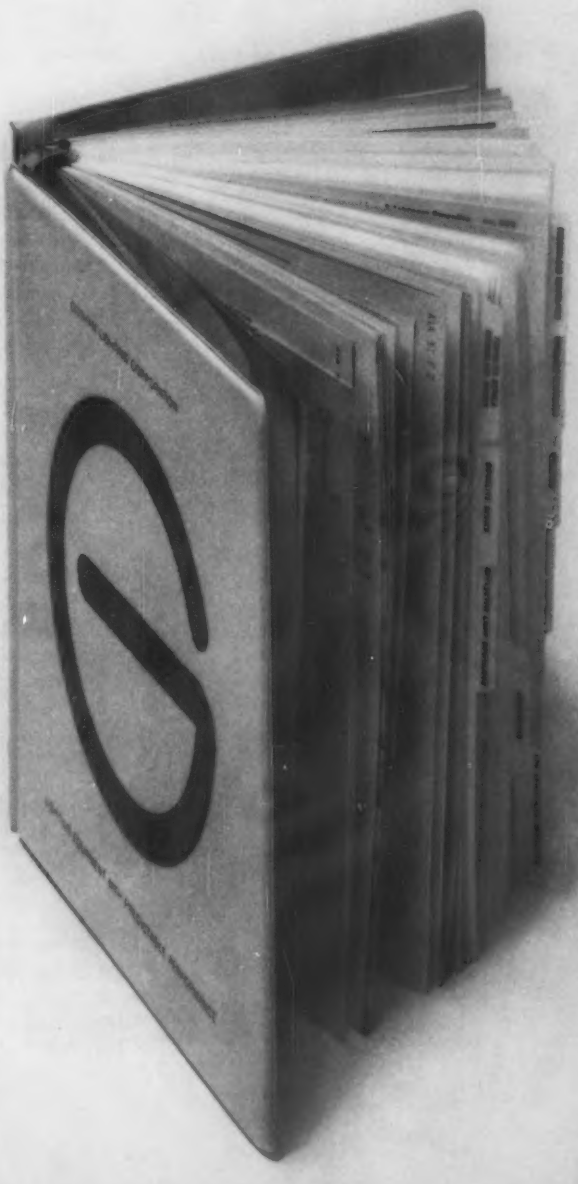
**REINHOLD PUBLISHING CORPORATION**

Dept. 5287, 430 Park Ave. New York 22, N. Y.

---

*Gotham Lighting Corporation's new catalog, just out, contains over 100 pages of photographs, detailed drawings, and technical data relating to Gotham's more than 880 lighting units... candlepower distribution curves, rapid estimate charts, coefficients of utilization and efficiency. Gotham invites you to order your copy now. Write to: Gotham Lighting Corporation,*

*37-01 THIRTY-FIRST STREET, LONG ISLAND CITY 1, NEW YORK.*



## DIRECTORY OF PRODUCT ADVERTISERS


Air Conditioning & Refrigeration Institute ..... 14
Air Devices, Inc. ..... 236
Allied Chemical Corp., Barrett Div..10, 11
Altec Lansing Corporation..... 232
American Brass Co. .....Back Cover
American Gas Assn. .....216, 217
American Olean Tile Co. ..... 117
American Radiator & Standard Sanitary Corp. .....230, 231
Armco Steel Corp. ..... 32
Armstrong Cork Co., Bldg. Products Div. ..... 7
Azrock Products Div. .....2nd Cover

Baldwin-Ehret-Hill, Inc ..... 233
Barrett Div., Allied Chemical Corp. ..10, 11
Bayley, Wm., Co. ..... 46
Bestwall Gypsum Co. ..... 21
Bethlehem Steel Co. ..... 229
Bird & Son, Inc. ..... 109
Blank, Frederic & Co., Inc. ..... 189

Cabot, Samuel, Inc. ..... 104
Carpenter, L. E. & Co., Inc. ..... 219
Celotex Corp. .....38, 39
Columbia Acoustics & Fireproofing Co. 61
Crawford Door Co. ..... 238

Davidson Enamel Products, Inc. ..... 107
Day-Brite Lighting, Inc. .....212, 213
Douglas Fir Plywood Assn. .....16, 17
Dover Corporation, Electric Elevator Div. ..... 103
Dow Chemical Co. .....70, 71
du Pont de Nemours, E. I., & Co., Inc., Elastomers Division ..... 187
Duriron Co., Inc. ..... 4

Electric Elevator Division, Dover Corp. 103
Ellison Bronze Co. ..... 210

Federal Seaboard Terra Cotta Corp. .. 28
Fenestra, Inc. .....202, 203
Fleet of America, Inc. ..... 102
Functional Fabrics, Inc.—An Affiliate of Kandell Industries ..... 20
Furane Plastics, Inc. ..... 76

General Bronze Corp. ..... 215
General Tire & Rubber Co., Building Materials Div. ..... 115
Georgia Marble Company ..... 237
Georgia Pacific Corp. .....77 thru 80
Gibson Lighting Mfg. Co. ..... 193
Glynn-Johnson Corp. ..... 199
Goodrich, B. F., Co. ..... 1
Gotham Lighting Corp. ..... 239
Granco Steel Products Co. ..... 2, 3
Grant Pulley & Hardware Co. ..... 15

Halo Lighting Products, Inc. ..... 9
Hardwood Plywood Institute ..... 239
Harrington & King Perforating Co., Inc. 106
Haws Drinking Faucet Co. ..... 200
Hillyard Chemical Co. ..... 89
Holmes, Archibald & Son ..... 112
Holophane Co. ..... 40

Indiana Limestone Co., Inc. ..... 34
Inland Steel Products Co. .....222, 223
Insulite Div. .....86, 87
Irving Subway Gratings Co., Inc. .... 90

Johnson Service Corp. ..... 6

Kawneer Co. ..... 68
Kentile, Inc. .....3rd Cover
Kewanee Mfg. Co. ..... 76
Kinnear Mfg. Co. ..... 214
Knoll Associates, Inc. ..... 118
Koh-I-Noor Pencil Co. ..... 105
Kohler Co. ..... 218

Lamont & Riley Company ..... 106
LCN Closers, Inc. .....224, 225
Libbey-Owens-Ford Glass Co. .....220, 221
Lightolier, Inc. .....18, 19
Liskey Aluminum, Inc. ..... 238

Macomber, Inc. ..... 85
Magee Carpet Co. ..... 105
Mahon, R. C., Co. .....234, 235
Marsh Wall Products, Inc. ..... 33
McLouth Steel Corp. ..... 45
McQuay, Inc. ..... 110
Medusa Portland Cement ..... 44
Miller, Howard, Clock Co. ..... 241
Miller Sliding Glass Door Co., Inc. ... 114
Minnesota Mining & Mfg. Co. ..... 96
Moore, P. O., Inc. ..... 92
Morse Boulger, Inc. ..... 63

National Bureau for Lathing and Plastering, Inc. ..... 205
National Gypsum Co. .....194 thru 198
National Lumber Mfrs. Assn. .....226, 227
National Terrazzo & Mosaic Assn. .... 8
New Castle Products, Inc. ..... 100
Onan D. W., & Sons, Inc. .....64, 65
Overhead Door Corp. .....74, 75
Owens Illinois-Kimble Glass Co. .....26, 27

Pass & Seymour ..... 104
Penn Metal Co., Inc. ..... 37
Pittsburgh Plate Glass Co. ..... 12
Pittsburgh Plate Glass Co., Paints.... 201
Porter, H. K., Company, National Electric Div. ..... 24

Raynor Mfg. Co. ..... 228
Ready-Power Company .....216, 217
Reinhold Publishing Corp. 73, 108, 238, 239
Republic Steel Corp. .....22, 23
Revere Copper & Brass, Inc. ..... 41
Rilco Laminated Products, Inc. ..... 67
Robbins Flooring Co. ..... 50
Robertson, H. H., Co. .....208, 209
Rolscreen Company, The ..... 36
Russell & Erwin Div. ..... 183

St. Charles Mfg. Co. ..... 25
Sanymetal Products Co., Inc. ..... 191
Sargent & Co. .....42, 43
Sedgwick Machine Works ..... 204
Simpson Logging Co. ..... 99
Sloan Valve Co. ..... 185
Spencer Turbine Co., The ..... 76
Staedtler, J. S., Inc. ..... 13
Stanpat Company ..... 92
Stark Ceramics, Inc. ..... 35
Structural Slate Co. ..... 116

Tile Council of America, Inc. .....206, 207
Trade Wind Div. of Robbins & Myers, Inc. ..... 114

United States Gypsum Co. ..... 111
U. S. Plywood Corp. .....47, 48
Universal Atlas Cement Co., Div. of U. S. Steel Corp. ..... 113
Universal Mfg. Corp. ..... 91
Uvalde Rock Asphalt Co. .....2nd Cover

Weis Mfg. Co. ..... 211
West Coast Lumbermen's Assn. ..... 29
Wheeler Reflector Co. ..... 93
Wilson Engineering Corp. ..... 239
Wood Conversion Co. .....94, 95

Zero Weather Stripping Co., Inc. ..... 72
Zonolite Co. .....30, 31

## SALES, SERVICE, AND CIRCULATION

PROGRESSIVE ARCHITECTURE — REINHOLD PUBLISHING CORPORATION

H. VICTOR DRUMM — Advertising Sales Manager
WILLIAM R. EVANS, JR. — Assistant Advertising Sales Manager
SAM H. PATTERSON, JR. — Research and Promotion Manager
JOSEPH M. SCANLON — Production Manager
DAVID N. WHITCOMBE — Circulation Manager
SUE FELDMAN — Subscription Manager

### NEW YORK OFFICE

430 Park Ave., New York 22, N. Y.
MUrray Hill 8-8600
ROBERT L. BASSINETTE — District Manager
DONALD W. THOMPSON — District Manager

### PITTSBURGH OFFICE

Porter Bldg., 601 Grant St., Pittsburgh 19, Pa.
ATlantic 1-9421
ALBERT E. McCLIMANS — District Manager

### CLEVELAND OFFICE

East-Ohio Building, 1717 E. 9th St., Cleveland 14, Ohio
PRospect 1-4011-12-13
JOHN F. KELLY — District Manager

### CHICAGO OFFICE

111 W. Washington St., Chicago 2, Ill.
RAndolph 6-8497
ARTHUR W. GORHAM — District Manager
CHARLES A. ULLRICH — District Manager
RALPH E. PETERSEN, JR. — District Manager

### WEST COAST ADVERTISING REPRESENTATIVES

Duncan A. Scott & Company
85 Post St., San Francisco 4, Calif.
GArfield 1-7950
DUNCAN A. SCOTT, CYRIL B. JOBSON

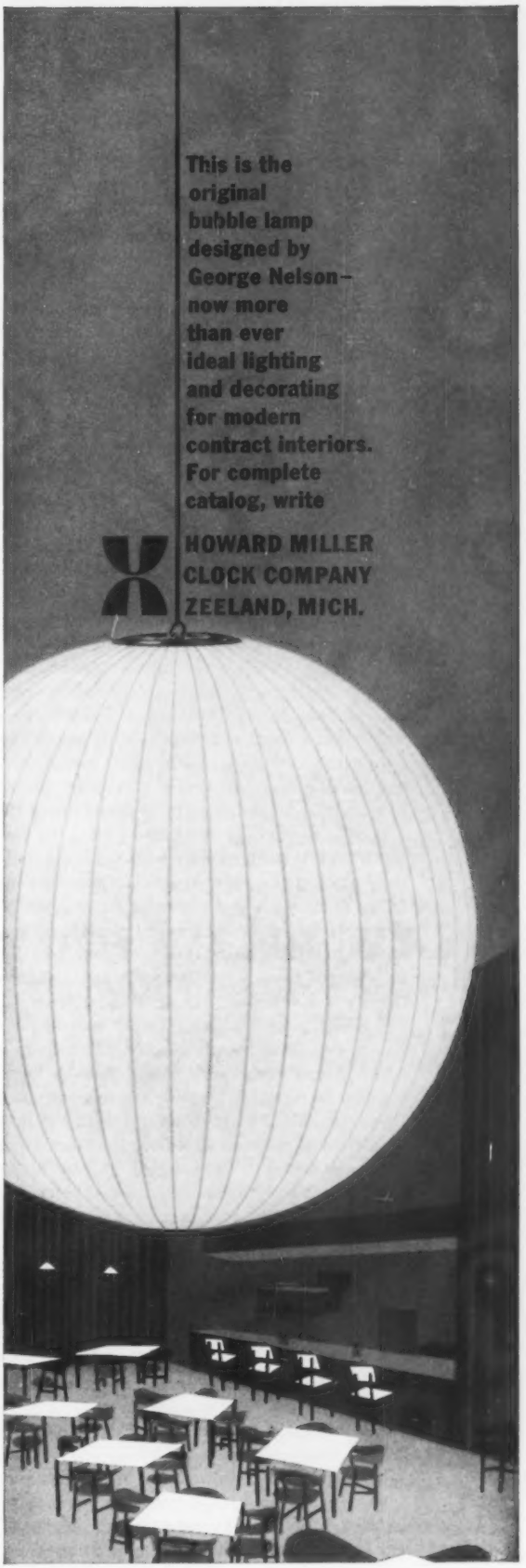
Duncan A. Scott & Company
1901 W. 8th St., Los Angeles 57, Calif.
DUnkirk 8-4151
PETER SCHULZ, LEE CUMMINGS

### SOUTHERN ADVERTISING REPRESENTATIVE

Robert L. Watkins Associates
583-805 Peachtree Bldg., Atlanta 8, Ga.
TRinity 4-6427
ROBERT L. WATKINS

## EXECUTIVE–ADMINISTRATIVE

DAVID BRADFORD WILKIN — Vice President and Publisher
THOMAS H. CREIGHTON, FAIA — Editor
H. VICTOR DRUMM — Advertising Sales Manager


This is the original bubble lamp designed by George Nelson– now more than ever ideal lighting and decorating for modern contract interiors. For complete catalog, write
HOWARD MILLER CLOCK COMPANY ZEELAND, MICH.

Thomas H. Creighton

P.S.

**Defense of Grand Central Terminal** in New York, to preserve the great space which constitutes its rotunda, rallied the architects of the country several years ago. Whether for this reason or others more practical, the space was saved. The great block-busting, void-plugging office building that is scheduled to go up north of the station does not plan to impinge on the waiting-room rotunda. Now, however, for the most mundane and commercial of reasons, it seems that the space is quietly to be destroyed. A newspaper story tells factually of plans to use the upper part of this room for three floors of bowling alleys, leaving a head room for the concourse below of 11 feet. No regrets in the article; only the amount of square footage involved and some details of the real estate transaction which consummated the "deal."

I am afraid that I have never been able to get very worked up over the *quality* of the space of this great room. Its *quantity* is what is important and worth preserving. The architecture of the building, inside and out, was never great, and in recent years the interior has become so confused with miscellaneous displays, signs, booths, and enlarged kodachromes that little was left for its most ardent advocates to admire—except its size, sweep and great height.

However, we have so few spaces left in which one can take a deep breath and feel alive that all of them should probably be preserved just for the opportunities they afford us for this rare, quickened sense of unflattened existence. An occasional heroic height is allowed in new structures; the entrance to the International Arrivals Building at Idlewild, its space defined by Calder's huge mobile, is an outstanding example. If one is likely to attend cattle shows, state fairs, political conventions, or other major sports events some of the coliseums that have been built in recent years offer great unobstructed space. And if one is a church-goer, it is possible to benefit from the fact that some of the denominations still strive for an uplifting effect by means of height and spaciousness. But otherwise the tendency is toward lower and lower ceiling heights, more and more obstructed spaces. Apartment and office building clear heights are reduced to the minimum which allows as many floors per envelope as possible. One of the comments we made about Seagram House in a critique last year was that even its large meeting rooms had been restricted to the vertical dimension of one, not-too-high floor. Recent theatres and auditoriums have let sight lines, rather than emotional impact, determine the over-all visible height.

Even outdoor spaciousness and grandeur are more and more ignored as desirable ingredients of a happy life. The canyon streets; the piddling little plazas applauded as open space around some of the sky-scrapers; the swallowing-up of green areas within and on the perimeter of cities: these are all symptomatic. I was amused (if that is the right word) at Robert Moses' argument in favor of a cafe—to be donated by Huntington Hartford and designed by Ed Stone—on a now open corner of Central Park in New York. The spot is opposite the Plaza (one of the few remaining hotels in the city with fine, great space inside and around it) where a lush corner of the Park slopes steeply down to a delightful pond. No one *uses* this space, Moses pointed out; it is completely wasted because it is such a steep slope. It has not occurred to him or to other advocates of the restaurant that unused, even unusable, space which has the quality of resting the tired eye, easing the tense mind, soothing the distracted soul, serves a terribly important function of its own.

Well, the upper air of the Grand Central rotunda will be used. Muscles of tired businessmen will be flexed and strengthened, even though their spirits may be tightened and their sensibilities dwarfed on the way as they cross, to train or to bowling game, a space 60 feet wide, 210 feet long, and 11 feet high.

As a matter of fact, one of our people here asked, if the New York Central is so hard up that income from the new national pastime must replace revenue from people riding trains, why not abandon some tracks and floor them with hardwood. This should make the ideal, endless bowling alley—from 42nd Street and Park Avenue in New York to Summer Street in Boston.

# ANTIQUE MARBLE IN SOLID VINYL TILE™

## another exclusive style in

# KENTILE FLOORS

Newest from Kentile®, this Solid Vinyl Tile provides all the beauty and depth of marble, yet its cost is surprisingly low. Its soft muted tones impart quiet dignity wherever it is used. Ideal for fine residential or commercial installations, on walls as well as floors. Call your Kentile Representative for samples, or consult Sweet's File.*

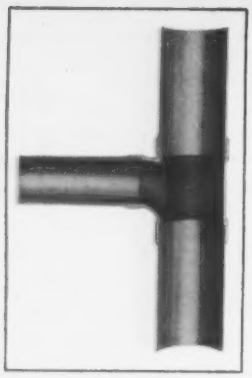
SPECIFICATIONS—

Use: Below, on or above grade.
Sizes: 9″ x 9″ and 12″ x 12″
Thicknesses: Standard Gauge (.080″) and 1/8″
Colors: six as shown

*In New York, visit the Kentile Floors Showroom, Suite 3119 (31st Floor), Empire State Building, 350 Fifth Ave.

Kentile, Inc., Brooklyn 15, N. Y.

Unretouched photo of 3" dia. copper tube removed after 13 years' service in a soil line.



**Anaconda drainage fittings** are designed to match Anaconda tube for fast, easy solder connections.

**WASTES FLOW FREELY IN COPPER DRAINAGE SYSTEMS AND YOU SAVE MONEY.** Compare the condition on the inside of this copper tube with what you might expect to find in ordinary piping after 13 years in service. Rust-caused troubles such as reduced flow or stoppages do not occur inside copper drainage lines. That is why many plumbing codes allow the use of 3" diameter copper tube for soil line and vent. Material costs are reduced and, because a 3" copper tube stack with fittings fits inside a standard 4" partition, the need for expensive, space-consuming plumbing walls is eliminated. Save time, effort, and money—install the modern drainage system with Anaconda copper tube and fittings. For information, write: The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

6001

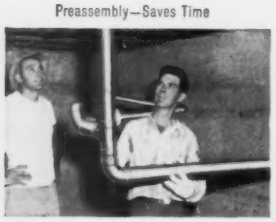
ANACONDA®

**COPPER TUBE AND FITTINGS for soil, waste and vent lines**

Available through plumbing wholesalers. Products of The American Brass Company

Longer Lengths—Fewer Joints

Preassembly—Saves Time



Lightweight Copper—Easier Installation

Compact Connections—Save Space